Fight Assistants: Mulik Form

Chosen Problem	Acting Team Member	R. Scheiber	K. Irgans	F. Valler	C. Deinkin	C. Widne	M. Tarreby	E. Shertenleib	D. Keller	M. Plesh	Juror	Te	
7 5	Auir Dellali	8	ھ	7	8	8	S	H	4	003	Rep	Team Solzhupst	
Spiral Waves	Mortan Varrih	n	∞	9	6	8	4	6	5	6	Opp	Hugory	Stage 1
Š	Michael Whachi	~	57	S	6	H	Co	7	n	5	Rev	Polard	
2	Somo	∞	Vo	(a)	2	70	CO	≪.	N	w	Rep	Hungary	
Balloa, A.	Soura Croning Bortdonigej Comandowski	6	S	N	4	\bowtie	S	N	8	5	Opp	Poland	Stage 2
firhor	Jonothen Hell	S	S	4	6	100	0	6	4	0	Rev	Solabya	
13 R	Filip Wohacki	0	7	0	∞	٩	S	7	8	4	Rep	Polonal	
Resonating Glass	Valentin Wiesiger	Co	80	6	5	00	3	N	6	57	Opp	Salzby a	Stage 3
15	Phy llida Hamilton-Meille	90	∞	La	8	La	6	2	9	9	Rev	Hurpay	-

Signature Fight Assistant: Think F. Double-checked with Scoring Guidelines by second Fight Assistant (signature):

Fight (Round no.): FIN Room: Stage:

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report * evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1



- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and
- Slides, on-site experiments, audio. video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Physics ±3



- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

- Physics ±3
- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please

do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): F Room:	F Stage: A Problem no.:
Juror: PUESCU	Signature:

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

* the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report evaluated the task fulfillment (when applicable)

A review should show that:

* the reviewer succeeded in giving an objective summary of the performances the reporter and opponent * the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent * evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

2	H Company of the Comp	5
	rysics ±3	1,5
•	Correct and relevant phy	sics
0	Scientific approach	
Ф	Validity of conclusions	
9	Accurate answers	
2	esentation ±1	0,75
0	Clear and understandable	

9	Appropriate manner	
0	Overall impression	
		Je
P	eporter ±1	0,75
@	Logical structure	-conscionessessesses

- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and
- Slides, on-site experiments, audio. video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

00000000000000000000000000000000000000	Por

- Correct and relevant physics
- Scientific approach

Physics ±3

- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

	pponent ±1	0,5
Ф	Response to the reporter	'5

- solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

5

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion abouttopics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): 4 Room: Stage: 1 Problem no.: 7

Juror: D.Kelle Signature: D.Melle

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* • the reviewer appreciated the *important aspects* (especially the *controversial* ones) • the reviewer's *personal opinion* was in evidence (*not just superficial observations*) • such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles* and *appropriate mathematics* used by the reporter and the opponent • evaluated the *task fulfillment* (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

S C S C C C C C C C C C C C C C C C C C	distriction to be a second or the second of the second or	5
Physics ±3		+2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Cacillo	TION	new new	***************************************
Classia		1	

- Clear and understandable
- Appropriate manner

and the second s

Overall impression

Reporter ±1___

- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- · Solution responded to the task

OPP 2 8 ANNIA DESCRIPTION ANNIA DESCRIPTION OF THE PROPERTY OF

Physics ±3 ______

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1

- Clear and understandable
- · Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev.: 5

Physics ±3 ______ Correct and relevant physics

- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1_



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.: SALZBURG Q

5

Physics ±3

1

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1

+1/2

- Clear and understandable
- · Appropriate manner
- Overall impression

Reporter ±1_

+1/2

- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Opp.: HUNGARY

5

Physics ±3

0.5

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1

0.5

- · Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev: POLAND

5

Physics ±3



- · Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1

1/2

- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.):	Room:	_ Stage:	Problem	no.:	
Juror:	Signati	ıre: <u>97</u> a	Alin	Tookice	der

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* • the reviewer appreciated the *important aspects* (especially the *controversial* ones) • the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) • such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles* and *appropriate mathematics* used by the reporter and the opponent • evaluated the *task fulfillment* (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.: Salzburg x 5

Physics ±3

- Introduction
- Correct and relevant physicsScientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1

+1

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1_

-0.5

- Logical structure
- Testing of hypotheses, appropriate models
- · Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- · Contribution to the discussion
- Solution responded to the task

Opp.: Hungary

1

Physics ±3_

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev.: Poland

Province

Physics ±3



2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1_



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Problem no

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) * such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent * evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.		Hau	101	X
В	CONTRACTOR	(neocennyeusanne	nitropolisis	WKKHKKKKKKK

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1

Clear and understandable

- Appropriate manner
- Overall impression

Reporter ±1

- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and
- Slides, on-site experiments, audio. video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

5

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Final Room: Stage: 1 Problem no.: 7 Juror: DEINLEIN Signature:

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

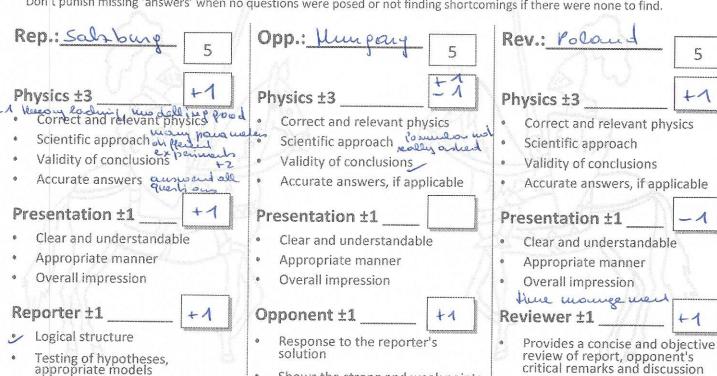
• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report * evaluated the task fulfillment (when applicable)

A review should show that:

* the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.



- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and. symbols using but somer sples?
 - Slides, on-site experiments, audio, video, as appropriate
 - References, proper citations of ideas and input of others
 - Contribution to the discussion
 - Solution responded to the task

- solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

E

- Correct and relevant physics
- Accurate answers, if applicable

- review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent like RE bumbers, surface leviou

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Reporter

Final Grade: Opponent





	APPEN N	illes est	squ qua	A COURSE	ASSES.	
	U			Contract of the contract of th	E3857	

Scoresheet	Fight (Round no.): F Room:	And Stage: 1 Problem no.: 2
if appropriate) • linking of theoretical an	epts, theories and principles of the problem • ar • reasonable experimental technique to gather ard dexperimental findings • drawing suitable concl andable manner • task fulfillment to a reasonable	nd process data (or demonstrate the phenomena usions • an attempt to communicate difficult or
appropriate mathematics presented * the	t: understanding of the presented concepts, theorie opponent critiqued the experimental technique u strengths and weaknesses of the report • evaluat	sed and questioned the validity of the data • the
 important aspects (especially the controv such personal opinions were informative principles and appropriate mathematics u The grade for each of the three teams 	ective summary of the performances the reporte ersial ones) • the reviewer's personal opinion was non-trivial and demonstrated, where possible, the sed by the reporter and the opponent • evaluated consists of a partial grade for physics, presented points. Write your partial grade for each second	as in evidence (not just superficial observations) e reviewer's understanding of concepts, theories, the task fulfillment (when applicable) ation and for their specific role. The reporter.
Rep.: Saltburg a	Opp.: Hastory 5	Rev.: Poland 5
Physics ±3	Physics ±3 0	Physics ±3
 Correct and relevant physics +/+ Scientific approach Validity of conclusions Accurate answers 	 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers, if applicable 	 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers, if applicable
Presentation ±1 + %5	Presentation ±1 -95	Presentation ±1
 Clear and understandable ~/† Appropriate manner + 	 Clear and understandable Appropriate manner 	Clear and understandable Appropriate manner ✓

Overall impression +

Reporter ±1

Logical structure ~

Testing of hypotheses, ~/~ appropriate models

Novelty of the report +

Quality of experimental † technique(s), errors estimation_

Explanation of formulae and

Slides, on-site experiments, audio, Lvideo, as appropriate +

References, proper citations of ideas and input of others

Contribution to the discussion +

Solution responded to the task -model ag coune ched to

alata Final Grade: Reporter

Opponent ±1 Response to the reporter's solution + Shows the strong and weak points of the report ~ Finds shortcomings or errors in the report and prioritises them Relevance of the questions $\sim/4/-$ Contribution to the discussion

Overall impression

Reviewer ±1

Provides a concise and objective review of report, opponent's critical remarks and discussion

Overall impression

Expresses own opinion about topics presented or discussed

Relevance of questions to both the reporter and the opponent

Draws attention to points missed by the reporter or the opponent

pood question propert This sheet will use dollering by the fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Opponent





ATTE	e1889a.	.0000 .0000	486		.HS816.	att8th.	adding.
	U	re	3	M			

680856	*	Fight (Round no.): Fire	l Room:	Stage: 1 Problem no.: 7
SC	oresheet	Juror: IRGANG	blus Sign	nature: <u>Illann Juppel</u>
• a p appli if app	cation of appropriate mathematics • re	asonable experimental technique <i>«perimental findings</i> » drawing sa	to <i>gather</i> and _l uitable conclusi	explanation of the observed phenomena • an process data (or demonstrate the phenomena fons • an attempt to communicate difficult or agree (when applicable)
the approximately app	opposition should show that: opponent challenged the reporter's uncopriate mathematics presented • the opponent appreciated and highlighted the street	ponent <i>critiqued</i> the <i>experimenta</i>	<i>l technique</i> used	and <i>principles</i> • the opponent understood the data of the data of the task fulfillment (when applicable)
* the impo * suc	rtant aspects (especially the controversi	al ones) • the reviewer's personant in-trivial and demonstrated, where	ol opinion was e possible, the re	and opponent • the reviewer appreciated the in evidence (not just superficial observations) eviewer's understanding of concepts, theories, etask fulfillment (when applicable)
<i>oppone</i> add to (Don	or deduct from the initial 5 points. 't punish missing 'answers' when no	pints. Write your partial grade questions were posed or not fin	for each section	on and for their specific role. The reporter, on in the corresponding shadowed box to mings if there were none to find.
	Soldbury d 5	Opp: Hungory	Source By State St	Rev.: 5
CoSoVo	orrect and relevant physics (+4) cientific approach (+1) alidity of conclusions ccurate answers	Physics ±3 Correct and relevant p Scientific approach (Validity of conclusions Accurate answers, if a		 Physics ±3 Correct and relevant physics Scientific approach Validity of conclusions Accurate answers, if applicable
• CI	entation ±1 +1 ear and understandable ppropriate manner + verall impression	Presentation ±1 Clear and understanda Appropriate manner Overall impression	-	• Clear and understandable • Appropriate manner • Overall impression bonds on A
Report	esting of hypotheses, propriate models ovelty of the report uality of experimental chnique(s), errors estimation	• Response to the report solution • Shows the strong and vof the report • Finds shortcomings or	weak points	Provides a concise and objective review of report, opponent's critical remarks and discussion Expresses own opinion about topics presented or discussed
Sli Sy Sli Re ide	confiducts), errors estimation planation of formulae and mbols des, on-site experiments, audio, deo, as appropriate errors of eas and input of others ontribution to the discussion lution responded to the task	the report and prioritis Relevance of the quest Contribution to the dis Odecleaning 20 igou onked theory oleclandon par	ions	 Relevance of questions to both the reporter and the opponent Draws attention to points missed by the reporter or the opponent Clouifying Suestree This sheet will be collected by the fight assistant, so we can scan it and fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Reporter



Final Grade: Opponent





Fight (Round no.): Room:	F Stage: 2 Problem no
Juror: PLASCA	Signature:

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to add to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

2	© 10 ° 6	5
- Condina	hysics ±3	+2
Ф	Correct and relevant phys	sics
0	Scientific approach	
6	Validity of conclusions	
9	Accurate answers	
		A

6	Clear and understandable
0	Appropriate manner
6	Overall impression
Services Control	leporter ±1

Logical structure

Presentation ±1

- Testing of hypotheses, appropriate models
- · Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Opp.:	5
Physics ±3	1

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1 ~25

- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1 ____ ပုဂ္ဂ

- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1.



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This short will be collected by the fight assistant, so we can scan it and archive your partial grades — please do not bend

Final Grade: Reporter



Final Grade: Opponent





Fight (Round no.): _____ Room: Stage: Problem no.: Juror: P. Kelle Signature: A. Helle

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

* the reviewer succeeded in giving an objective summary of the performances the reporter and opponent * the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent * evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.:	5
Physics ±3	+1
 Correct and relevant ph 	lysics
 Scientific approach 	

- Validity of conclusions
- Accurate answers

Presei	ntation	+1	900AAAAAAAAA	+1
1.1	Ŷ	3000	МИЛИМИНИ В В В В В В В В В В В В В В В В В В 	TOTO TOTO TOTO TOTO TOTO TOTO TOTO TOT

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter	3 Miles	encontrononnonnissiusuusuusuus	C

- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

			1	
Presentation	41		10	-
a n duran des a prate principi e de albre il	555-525	PORTENDOSONOSONAS		

- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev.:

Physics ±3 Correct and relevant physics

- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer		1000	Second .			Manage
				-	ntinnoonee	300
9	Provides	a	co	nrise	and	ohie



- review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Fmal Room: Stage: Z Problem no.: Z

Juror: E- Scherkerkib Signature: Signature:

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* • the reviewer appreciated the *important aspects* (especially the *controversial* ones) • the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) • such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles and appropriate mathematics* used by the reporter and the opponent • evaluated the *task fulfillment* (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

KED.	+ 00	5
Physics ±	2	1
6 18 M res 8 20 mg	WHEN THE PROPERTY OF THE PROPE	-

- · Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1 ____

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1_

1/2

- Logical structure
- Testing of hypotheses, appropriate models
- · Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Opp.: POL

Physics ±3

5

1

Correct and relevant physics

- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1

1/2

- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- · Relevance of the questions
- Contribution to the discussion

Rev.: Satebu

5

Physics ±3



- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1.



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Finals Room: Stage: 2 Problem no.: 2

Juror: Tazreiter Signature: Parlin Tazreiter

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* • the reviewer appreciated the *important aspects* (especially the *controversial* ones) • the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) • such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles* and *appropriate mathematics* used by the reporter and the opponent • evaluated the *task fulfillment* (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep. Hi	and the second s	5
Physics ±3	MANAGEMENT AND	+2

- · Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

			1 18
Presentation	+1		+1
		MOUNTAIN NO. OF PERSONS	Languagenanament

- Clear and understandable
- · Appropriate manner
- Overall impression



- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task



05

Physics ±3 _____ 2.5

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1 0.5

- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- · Relevance of the questions
- Contribution to the discussion

Rev.: Salzburga

Physics ±3



5

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend

Final Grade: Reporter

9

Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.):

A report should include:

 a presentation of the appropriate concepts, theories and principles of the problem
 an explanation of the observed phenomena
 an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

2

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1

- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please

do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Fuel Room: Stage: 2 Problem no.: 2 Juror: DEINLEIN Signature: Deinle

A report should include:

 a presentation of the appropriate concepts, theories and principles of the problem
 an explanation of the observed phenomena
 an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented . the opponent critiqued the experimental technique used and questioned the validity of the data . the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't nunish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.: Hungary 5	Opp.: Poloud 5	Rev.: Solabury 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics Scientific approach Legisle Validity of conclusions	 Correct and relevant physics Scientific approach Validity of conclusions 	 Correct and relevant physics Scientific approach Validity of conclusions
Accurate answers	• Accurate answers, if applicable	Accurate answers, if applicable
Presentation ±1	Presentation ±1	Presentation ±1 00
 Clear and understandable Appropriate manner Overall impression 	 Clear and understandable Appropriate manner Overall impression 	 Clear and understandable Appropriate manner Overall impression repealed the opposed
Reporter ±1	Opponent ±1 +1	Reviewer ±1qs
 Logical structure Testing of hypotheses, appropriate models 	 Response to the reporter's solution Shows the strong and weak points 	Provides a concise and objective review of report, opponent's critical remarks and discussion

of the report

naals

Finds shortcomings or errors in the report and prioritises them

Relevance of the questions

Contribution to the discussion

to mudrou vibraliug

- and objective opponent's nd discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please do not bend

- appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

time und fully used overviens again in and

Final Grade: Reporter

Final Grade: Opponent



Final Grade: Reviewer



4986	APPEN.	AB 1000	ASS (1)	1894	APPROX.	APPEN.	
	U	1000			600		

Fight (Round no.): F	m: Anol Stag	ge: 2 Problem	no.: 2
Juror: VALKA	Signature:	lane	

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented . the opponent critiqued the experimental technique used and questioned the validity of the data . the opporient appreciated and highlighted the strengths and weaknesses of the report * evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

e to find.

	questions were posed or not finding shortcon	nings if there were non
Rep: Hugary 5	Opp.:	Rev.:
Physics ±3 +2	Physics ±3 -0,5	Physics ±3
 Correct and relevant physics †/† Scientific approach †/† Validity of conclusions ~ Accurate answers †// Accurate answers †//	 Correct and relevant physics +/w/ Scientific approach +/w//w Validity of conclusions /- Accurate answers, if applicable + Presentation ±1 -9,5 	1 11 www.hom
 Clear and understandable + Appropriate manner + Overall impression + 	 Clear and understandable ~/~ Appropriate manner +/~ Overall impression 	Clear and undeAppropriate maOverall impress
Reporter ±1 +1	Overall impression - too inscure Opponent ±1 - to 15	Reviewer ±1
 Logical structure + Testing of hypotheses, appropriate models + 	Response to the reporter's solution	 Provides a conc review of repor critical remarks
 Novelty of the report Quality of experimental technique(s), errors estimation 	of the report • Finds shortcomings or errors in •	Expresses own topics presente
reconsique(s), en ors estillation	the report and prioritises them	 Relevance of au

5

10,5

evant physics

- ach
- lusions
- ers, if applicable

- rstandable ~
- nner
- ion ~

3				[
	Reviewer	* 1	пенения	+1
	11			"MARKARISHSHORDER

- ise and objective t, opponent's and discussion
- opinion about 🚣 topics presented or discussed
- Relevance of questions to both the reporter and the opponent +
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Reporter

symbols

Explanation of formulae and

Slides, on-site experiments, audio, video, as appropriate

References, proper citations of ideas and input of others

Contribution to the discussion

Solution responded to the task

investigated mains parometers



Final Grade: Opponent

aun

Relevance of the questions \rightarrow

Contribution to the discussion



Final Grade: Reviewer



Fight (Round no.): Fire Room: Stage: 2 Problem no.: 2 Juror: 1RGANG Waysignature: Mans

A report should include:

a presentation of the appropriate concepts, theories and principles of the problem an explanation of the observed phenomena and application of appropriate mathematics . reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented . the opponent critiqued the experimental technique used and questioned the validity of the data . the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

. the reviewer succeeded in giving an objective summary of the performances the reporter and opponent . the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Soll Charles (1997)	describing the boson of the tittering chartes.	San
Rep.: Hungary 5	Opp.: Polocrof 5	Rev.: Soulsburg of 5
Physics ±3 +2	Physics ±3	Physics ±3 +2
• Correct and relevant physics (+)	Correct and relevant physics	Correct and relevant physics
• Scientific approach	Scientific approach Slaugh	Scientific approach
Validity of conclusions	· Validity of conclusions diverge	· Validity of conclusions resource
Accurate answers	Accurate answers, if applicable	Accurate answers, if applicable
Presentation ±1 +1	Presentation ±10,5	Presentation ±1 +0,5
• Clear and understandable (F)	Clear and understandable	Clear and understandable
· Appropriate manner smile	Appropriate manner → loo much	Appropriate manner
Overall impression	· Overall impression high!	Overall impression
Reporter ±1 +1	Opponent ±1	Reviewer ±1 +Q.5
Logical structure	Response to the reporter's	Provides a concise and objective
Testing of hypotheses, appropriate models	solution	review of report, opponent's critical remarks and discussion
	Shows the strong and weak points of the const.	
Novelty of the report	of the report	 Expresses own opinion about topics presented or discussed
 Quality of experimental technique(s), errors estimation 	Finds shortcomings or errors in the report and prioritises them	 Relevance of questions to both the

Relevance of the questions

Contribution to the discussion

Final Grade: Reporter

symbols

Explanation of formulae and

Slides, on-site experiments, audio, video, as appropriate

References, proper citations of ideas and input of others

Contribution to the discussion (+) Solution responded to the task



Final Grade: Opponent



ging questions

Final Grade: Reviewer

do not bend



Revised version approved by EC in November 2015

Relevance of questions to both the reporter and the opponent

Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the

fight assistant, so we can scan it and archive your partial grades - please

Fight (Round no.): P/N Room:

A report should include:

· a presentation of the appropriate concepts, theories and principles of the problem · an explanation of the observed phenomena · an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.



Correct and relevant physics

- Scientific approach
- Validity of conclusions
- Accurate answers





- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1



- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and ____
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of + ideas and input of others
- Contribution to the discussion ~
- Solution responded to the task †

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1

- Clear and understandable ~
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in 4 the report and prioritises them
- Relevance of the questions
- Contribution to the discussion A



Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please

do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): F Room: F Stage: 3 Problem no.: 13

Juror: Signature:

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep	8		
a ar and Buty	cossonnannan	NOOSSISSI SALKASSASSASSASSI KIRIKANIN KAN	5
Phys	ics ±3		19

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1

Øst

- Clear and understandable
- · Appropriate manner
- Overall impression

Reporter ±1 ____



- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Opp.:

5

a

Physics ±3_

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev.:

5

Physics ±3



- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please

do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Room: Stage: Juror: P. Kelle Signature:

A report should include:

 a presentation of the appropriate concepts, theories and principles of the problem
 an explanation of the observed phenomena
 an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

 the opponent challenged the reporter's understanding of the presented concepts, theories and principles
 the opponent understood the appropriate mathematics presented . the opponent critiqued the experimental technique used and questioned the validity of the data . the opponent appreciated and highlighted the strengths and weaknesses of the report * evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

6 000000000000000000000000000000000000	DOCOGRAMMA MARIO DE CONTREMA MARIO DE CONTREMA DE CONT	5
Physics ±3	NANDANA TERRETURA DA TANDA DE PARA DE	+1

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation		+1
	900000ANIO-WIOGOG	Teanagananamana

- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1	47
	1-поприменения применения

- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1

- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1

- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev.:

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



0

- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please

do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Fmal Room: Stage: 3 Problem no.: 6

Juror: E. Schesfenlest Signature: Selecte Medicals.

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* • the reviewer appreciated the *important aspects* (especially the *controversial* ones) • the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) • such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles and appropriate mathematics* used by the reporter and the opponent • evaluated the *task fulfillment* (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rep.:	яння при	B0016010000000	5
			1
Physic	S ±3_		

- Correct and relevant physics
- Scientific approach
- · Validity of conclusions
- Accurate answers

		-
Presentation	 миссионналисс	1/2

- Clear and understandable
- · Appropriate manner
- Overall impression

Reporter	 ENSULTATION OF THE STATE OF THE	1/2

- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Physics ±3 - 1/2

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1.



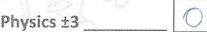
- Clear and understandable
- · Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev.



- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



5

- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Finds Room: Stage: 3 Problem no.: 13

Juror: Tazreiter Signature: Narsin Taxalor

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

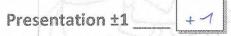
• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.



- · Correct and relevant physics
- Scientific approach
- · Validity of conclusions
- Accurate answers



- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1 +1

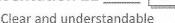
- Logical structure
- Testing of hypotheses, appropriate models
- Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Opp.: Salzburga 5

Physics ±3

- Correct and relevant physics
- · Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- · Appropriate manner
- Overall impression

Opponent ±1 + 1

- Response to the reporter's solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev .: Hungary

+2

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1.



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please

do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): T Room: Stage: Problem no.: 13

Juror: E, Widmany Signature:

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an *objective summary* of the performances the *reporter* and *opponent* • the reviewer appreciated the *important aspects* (especially the *controversial* ones) • the reviewer's *personal opinion* was in evidence (*not* just *superficial observations*) • such personal opinions were *informative*, *non-trivial* and demonstrated, where possible, the reviewer's *understanding* of *concepts*, *theories*, *principles and appropriate mathematics* used by the reporter and the opponent • evaluated the *task fulfillment* (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

Rer	\$ 8 COS	10	bai	10	PERSONAL PROPERTY CORDER	5
						L

Physics ±3

- 13
- · Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers

Presentation ±1

- 0.5
- Clear and understandable
- Appropriate manner
- Overall impression

Reporter ±1



- Logical structure
- Testing of hypotheses, appropriate models
- · Novelty of the report
- Quality of experimental technique(s), errors estimation
- Explanation of formulae and symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task

Opp.: Saltsuy

Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Opponent ±1



- Response to the reporter's solution
- Shows the strong and weak points of the report
- V Finds shortcomings or errors in the report and prioritises them
- €) Relevance of the questions
- Contribution to the discussion

Rev.: Huyary

3

Correct and relevant physics

Physics ±3

- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- · Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Fixal Ro	om: St	age: S	Problem r	no.: 13
Juror: DEIN LEIN	Signature:		ileni	
heories and principles of the problem onable experimental technique to ga erimental findings • drawing suitable de manner • task fulfillment to a reas	ther and process of conclusions and	<i>data</i> (or <i>de</i> n attempt t	<i>monstrate</i> the o communicat	phenomena

A report should include:

· a presentation of the appropriate concepts, t application of appropriate mathematics * reason if appropriate) . linking of theoretical and expe complex ideas in an effective and understandable

An opposition should show that:

• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

A review should show that:

* the reviewer succeeded in giving an objective summary of the performances the reporter and opponent * the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to

Don't punish missing 'answers' when I	no questions were posed or not finding shortc	omings if there were none to find.
Rep.: Polau d	Opp.: Solsburg 5	Rev.: Lungay 5
Physics ±3	Physics ±3 +1	Physics ±3 +1
 Correct and relevant physics Scientific approach Validity of conclusions 	 Correct and relevant physics Scientific approach Validity of conclusions 	 Correct and relevant physics Scientific approach Validity of conclusions
Accurate answers — o.5	Accurate answers, if applicable	Accurate answers, if applicable
Presentation ±1	Presentation ±1	Presentation ±1 +1
Clear and understandable	Clear and understandable	Clear and understandable
 Appropriate manner 	Appropriate manner	Appropriate manner
Overall impression	Overall impression	Overall impression
Reporter ±1 +1	Opponent ±1 0,4	Reviewer ±1 +1
 Logical structure 	Response to the reporter's	Provides a concise and objective
Testing of hypotheses, appropriate models	solution • Shows the strong and weak points	review of report, opponent's critical remarks and discussion
 Novelty of the report 	of the report	Expresses own opinion about topics presented or discussed
 Quality of experimental technique(s), errors estimation 	 Finds shortcomings or errors in the report and prioritises them 	Relevance of questions to both the
 Explanation of formulae and 	Relevance of the questions	reporter and the opponent

Contribution to the discussion

summouy

discussed (4-5)

only few points were

Final Grade: Reporter

symbols

Slides, on-site experiments, audio.

References, proper citations of ideas and input of others

Contribution to the discussion

Solution responded to the task

video, as appropriate

Final Grade: Opponent



Final Grade: Reviewer

do not bend



Draws attention to points missed

by the reporter or the opponent

This sheet will be collected by the

fight assistant, so we can scan it and

archive your partial grades - please

4990	4990	28.68	or and the	a8000		488b	#88@a	
			Seat P	1		1000	hadif	

Fight (Round no.):	P Room:	hid Stage:	Problem no.	: 73
Juror: VAC	to A	Signature:		MANAGANAN SINIS SI

A report should include:

· a presentation of the appropriate concepts, theories and principles of the problem · an explanation of the observed phenomena · an application of appropriate mathematics * reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner * task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

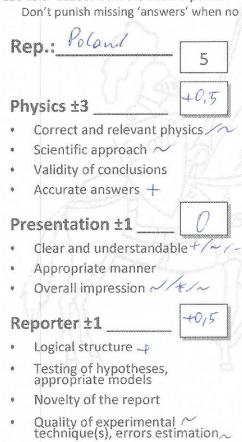
• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report * evaluated the task fulfillment (when applicable)

A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) * such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.



Explanation of formulae and

Slides, on-site experiments, audio, video, as appropriate + /+

References, proper citations of ideas and input of others

Contribution to the discussion + Solution responded to the task Physics ±3 Correct and relevant physics F Scientific approach ≠ /~ Validity of conclusions ~ Accurate answers, if applicable Presentation ±1 Clear and understandable ~ Appropriate manner Overall impression Opponent ±1 Response to the reporter's solution ~/+/~

- Shows the strong and weak points
- of the report 🚅
- Finds shortcomings or errors in the report and prioritises them
- Relevance of the questions $\sim 1+$
- Contribution to the discussion

Physics ±3

- Correct and relevant physics +
 - Scientific approach + /+
 - Validity of conclusions ~
- Accurate answers, if applicable

Presentation ±1

- Clear and understandable +
- Appropriate manner +
- Overall impression +

Reviewer	 annessanatananananananananananananananananan	+1	occurrency.
		E-sensonnessens	occus.

- Provides a concise and objective review of report, opponent's +/ critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent +
- Draws attention to points missed + by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades - please do not bend

Final Grade: Reporter

symbols



Final Grade: Opponent



Final Grade: Reviewer



Fight (Round no.): Fivel Room: Stage: Juror: 1RGANG Klaum Signature: 1/lan

A report should include:

· a presentation of the appropriate concepts, theories and principles of the problem · an explanation of the observed phenomena · an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner * task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

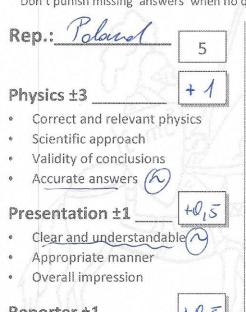
• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented . the opponent critiqued the experimental technique used and questioned the validity of the data . the opponent appreciated and highlighted the strengths and weaknesses of the report * evaluated the task fulfillment (when applicable)

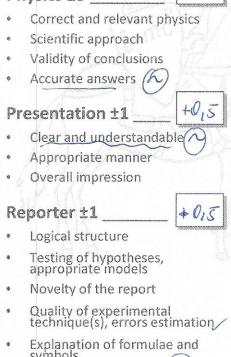
A review should show that:

• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role. The reporter, opponent and reviewer each start with 5 points. Write your partial grade for each section in the corresponding shadowed box to add to or deduct from the initial 5 points.

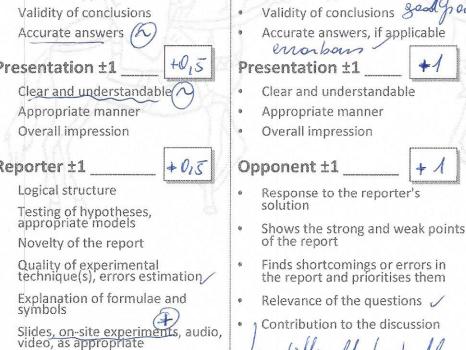
Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.

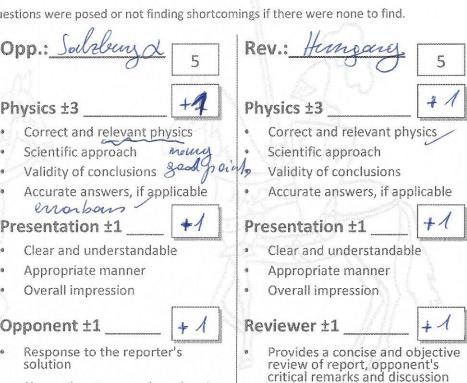




References, proper citations of ideas and input of others

Contribution to the discussion Solution responded to the task





Final Grade: Reporter



Final Grade: Opponent



the very good merentocker

Final Grade: Reviewer

do not bend



Revised version approved by EC in November 2015

Expresses own opinion about

topics presented or discussed

Relevance of questions to both the reporter and the opponent

Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the

fight assistant, so we can scan it and

archive your partial grades - please

Fight (Round no.): FIN Room: Stage: 3 Problem no.: 13

Juror: Robert Sdeibersignature:

A report should include:

• a presentation of the appropriate concepts, theories and principles of the problem • an explanation of the observed phenomena • an application of appropriate mathematics • reasonable experimental technique to gather and process data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings • drawing suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner • task fulfillment to a reasonable degree (when applicable)

An opposition should show that:

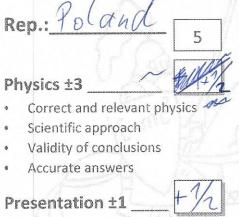
• the opponent challenged the reporter's understanding of the presented concepts, theories and principles • the opponent understood the appropriate mathematics presented • the opponent critiqued the experimental technique used and questioned the validity of the data • the opponent appreciated and highlighted the strengths and weaknesses of the report • evaluated the task fulfillment (when applicable)

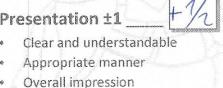
A review should show that:

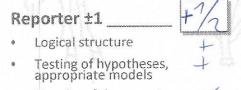
• the reviewer succeeded in giving an objective summary of the performances the reporter and opponent • the reviewer appreciated the important aspects (especially the controversial ones) • the reviewer's personal opinion was in evidence (not just superficial observations) • such personal opinions were informative, non-trivial and demonstrated, where possible, the reviewer's understanding of concepts, theories, principles and appropriate mathematics used by the reporter and the opponent • evaluated the task fulfillment (when applicable)

The grade for each of the three teams consists of a partial grade for *physics*, *presentation* and for their *specific role*. The *reporter*, *opponent* and *reviewer* each *start with 5 points*. *Write* your partial grade for each section in the corresponding shadowed box to *add* to or *deduct* from the initial *5 points*.

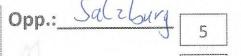
Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.







- Novelty of the report
 Quality of experimental technique(s), errors estimation
- ullet Explanation of formulae and \sim symbols
- Slides, on-site experiments, audio, video, as appropriate
- References, proper citations of ideas and input of others
- Contribution to the discussion
- Solution responded to the task †



Physics ±3

- Correct and relevant physics
- Scientific approach
- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1 ____ +1

Clear and understandable

Appropriate manner

Overall impression

Opponent ±1 ____ +1

- Response to the reporter's + solution
- Shows the strong and weak points of the report
- Finds shortcomings or errors in + the report and prioritises them
- Relevance of the questions
- Contribution to the discussion

Rev.: Hundry

+1

- Correct and relevant physics
 - Scientific approach

Physics ±3

- Validity of conclusions
- Accurate answers, if applicable

Presentation ±1



- Clear and understandable
- Appropriate manner
- Overall impression

Reviewer ±1



- Provides a concise and objective review of report, opponent's critical remarks and discussion
- Expresses own opinion about topics presented or discussed
- Relevance of questions to both the reporter and the opponent
- Draws attention to points missed by the reporter or the opponent

This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend

Final Grade: Reporter



Final Grade: Opponent



Final Grade: Reviewer

