Scoring Guidelines	S	CO	r		7	g	G	U		d	e	Name of the last		n	e	S	
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Scoring Guidelin		n: GStage: AProblem no.: 6
application of appropriate mathematics • re	ts, theories and principles of the problem • an estate as a second ble experimental technique to gather and a second ble experimental findings to draw suitable conclusion	explanation of the observed phenomena • an record data (or demonstrate the phenomena if
An opposition should show that: • the opponent challenged the reporter's un appropriate mathematics presented • the opponent appreciated and highlighted the str	nderstanding of the presented concepts, theories opponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the d and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controvers	tive summary of the performances the reporter ial ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations) •
<ul> <li>The reporter, opponent and reviewer of the Consider the following suggestions to a select each partial grade from each second</li> </ul>	consists of a partial grade for physics, present each start with 5 points. add to or deduct from the initial 5 points. ction and write it in the corresponding box. o questions were posed or not finding shorte	
Rep.: 7HA(LAN) 5	Opp.: 6 = 0RGIA 5	Rev.: 00 5
Physics ±3  Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	Physics ±3  ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers	Physics ±3  ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1 +05  Clear and understandable Appropriate manner Overall impression	Presentation ±1  ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 ←O.S  □ Clear and understandable □ Appropriate manner □ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1 4015
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure ☐ Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
symbols  Appropriate models, conformity	Finds shortcomings or errors in the report	Relevance of questions to both th reporter and the opponent
of dimensions  Slides, on-site experiments, audio,	Relevance of the questions	Draws attention to points missed by the reporter or the opponent
I sides, on-site experiments, audio, video, as appropriate  References, proper citations of ideas and input of others	Contribution to the discussion	is he collected by the
		This sheet will be con- fight assistant, so we can scan it and

Final Grade: Reporter

☐ Contribution to the discussion

☐ Novelty of the report

Final Grade: Opponent

Final Grade: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03

do not bend

archive your partial grades - please



Scor	ina	Guide	lines

Final Grade: Reporter

Canina Cailli	Fight (Round no.): Roor	n: Stage: Problem no.:
Scoring Guidelin	1es Juror: Klows Roller	_ Signature:
A report should include:		
application of appropriate mathematics ◦ r	ets, theories and principles of the problem • an eleasonable experimental technique to gather and experimental findings to draw suitable conclusionable manner	record data (or demonstrate the phenomena if
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the st	nderstanding of the presented concepts, theories pponent critiqued the experimental technique use	and <i>principles</i> • the opponent understood the data • the
A review should show that:		
important aspects (especially the controvers	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in nortrivial and demonstrated, where possible, the red by the reporter and the opponent	n evidence (not just superficial observations) o
<ul> <li>The reporter, opponent and reviewer</li> <li>Consider the following suggestions to</li> <li>Select each partial grade from each set</li> </ul>	consists of a partial grade for <i>physics</i> , <i>present</i> each <i>start with 5 points</i> .  add to or <i>deduct</i> from the initial <i>5 points</i> .  action and <i>write it</i> in the corresponding box.  The properties of the corresponding shorts are the corresponding shorts.	
Rep.: Thailand 5	Opp.: <u>600 (91 or</u> 5	<b>Rev.:</b> <u>UK</u> 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
☐ Scientific approach ☐ Validity of conclusions	☐ Scientific approach	☐ Scientific approach
Accurate answers	☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions ☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	U Overall impression	☐ Overall impression
Reporter ±1 - 1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	Shows the strong and weak points	☐ Expresses own opinion about
Explanation of formulae and symbols	of the report  Finds shortcomings or errors in	topics presented or discussed  Relevance of questions to both the
Appropriate models, conformity of dimensions	the report  Relevance of the guestions	reporter and the opponent
☐ Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	Draws attention to points missed by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
Novelty of the report		fight assistant, so we can acc archive your partial grades – please
Contribution to the discussion	analoneeennoon s. maanaannoonidaalaine maanaa vadililimid .	do not bend
Autoregous-personal control of the c		

Final Grade: Opponent Final Grade: Reviewer
Revised after IOC feedback and approved by EC on 2011-11-03

Rep.: Thurland

☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers

Presentation ±1

Clear and understandable

☐ Explanation of formulae and

☐ Appropriate models, conformity

☐ Slides, on-site experiments, audio,

References, proper citations of ideas and input of others

Appropriate manner

☐ Overall impression

☐ Novelty of the report

Reporter ±1

Correct and relevant physics

Physics ±3

Consider Control 1:	Fight (Round no.): 4 Room	n: <u>G</u> Stage: <u>1</u> Problem no.: <u>6</u>
Scoring Guidelii	1es Juror: MEMAR PAINOSONA	Signature: Run
A report should include:		
application of appropriate mathematics • r	ets, theories and principles of the problem • an execution and experimental technique to gather and experimental findings to draw suitable conclusion dable manner	record data (or demonstrate the phenomena if
An opposition should show that:		
<ul> <li>the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the st</li> </ul>	nderstanding of the presented concepts, theories pponent critiqued the experimental technique use trengths and weaknesses of the report	and <i>principles</i> • the opponent understood the d and questioned the <i>validity</i> of the <i>data</i> • the
A review should show that:		
important aspects (especially the controvers	ctive summary of the performances the reporter sial ones) • the reviewer's personal opinion was in on-trivial and demonstrated, where possible, the red by the reporter and the opponent	evidence (not just superficial observations)
The <i>reporter, opponent</i> and <i>reviewer</i> Consider the following <i>suggestions</i> to  Select each partial grade from each set	consists of a partial grade for <i>physics, present</i> each <i>start with 5 points</i> .  add to or <i>deduct</i> from the initial <i>5 points</i> .  ction and <i>write it</i> in the corresponding box.  no questions were posed or not finding shortco	
Rep.: Tharland 5	Opp.: Georgia 5	Rev.: 1/K 5
hysics ±3	Physics ±3	Physics ±3
Correct and relevant physics	Correct and relevant physics	☐ Correct and relevant physics
Scientific approach  Validity of conclusions	Scientific approach	☐ Scientific approach
Accurate answers	☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions ☐ Accurate answers
	p.1/0.1-MCConsiderations represented by	Accurate answers
resentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	☐ Clear and understandable
Appropriate manner	Appropriate manner	Appropriate manner
Overall impression	因 Overall impression	Overall impression
eporter ±1	Opponent ±1	Reviewer ±1 + 1/9
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
Structure	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
Explanation of formulae and symbols	Finds shortcomings or errors in the report	☐ Relevance of questions to both the
Appropriate models, conformity of dimensions	Relevance of the questions	reporter and the opponent  Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the

Contribution to the discussion Final Grade: Reporter

Final Grade: Opponent

Final Grade: Reviewer

do not bend

Revised after IOC feedback and approved by EC on 2011-11-03

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

Scoring	Guidelines	
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Fight (Round no.): _	H Room:	FG Sta	ge:	Problem no.: _	
Juror: YWOIT	YUE	Signature:	They	Judit	

Final Grade: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03

Α	repo	rt sh	ould	in	clu	de:
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• 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 record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

#### 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

#### 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
- 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.

<ul> <li>Select each partial grade from each sec</li> </ul>	add to or deduct from the initial 5 points. tion and write it in the corresponding box. o questions were posed or not finding shortc	omings if there were none to find.
Rep.: Thailand 5	Opp.: Georgia 5	Rev.: U. K. 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
☐ Scientific approach	Scientific approach	
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	☐ Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	☐ Shows the strong and weak points	Expresses own opinion about
☐ Explanation of formulae and	of the report	topics presented or discussed
symbols	Finds shortcomings or errors in the report	Relevance of questions to both the
Appropriate models, conformity of dimensions		reporter and the opponent
generation.	- violatance of the questions	Draws attention to points missed by the reporter or the opponent
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we con archive your partial grades – please
☐ Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer

		Fight (Round no.):	Room: <b>\</b>	<u> </u>	
Scoring	Guidelines	Juror: CRUNA BYUF	John Sie	gnature: [/].	i a c

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 record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

### 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

#### 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
- 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.
- Consider the following suggestions to add to or deduct from the initial 5 points.
- Select each partial grade from each section and write it in the corresponding box.

<ul> <li>Don't punish missing 'answers' when r</li> </ul>	no questions were posed or not finding shortco	omings if there were none to find.
Rep.: Thazland 5	Opp.: <u>Geogra</u> 5	Rev.:
Physics ±3	Physics ±3 +1.0	Physics ±3
Correct and relevant physics	†□†Correct and relevant physics	Correct and relevant physics
Scientific approach	Scientific approach	├□ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	`☐ Validity of conclusions
— ☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1 +0.5	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	₹□ Clear and understandable
Appropriate manner	☐ Appropriate manner	Appropriate manner
Overall impression	Overall impression	☐ Overall impression
Reporter ±1 +0.5	<b>Opponent ±1</b> + 0.57	Reviewer ±1 +0.35
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure Muse Mile & Troum  Explanation of formulae and	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
symbols	Finds shortcomings or errors in	Relevance of questions to both the
☐ Appropriate models, conformity	the report	reporter and the opponent
of dimensions	Relevance of the questions	Draws attention to points missed by the reporter or the opponent
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	
<ul> <li>References, proper citations of ideas and input of others</li> </ul>		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we con- archive your partial grades – please
Contribution to the discussion $\frac{1}{t}$	0 +1655	do not bend
		The state of the s

Final Grade: Opponent

Scoring Guidelin	Fight (Round no.): H Room  Note: Mattias Andresson	n: Stage: Problem no.: 6
A report should include:		
application of appropriate mathematics • re	ts, theories and principles of the problem • an exeasonable experimental technique to gather and it is a suitable conclusion of the manner is a draw suitable conclusion of the manner is a dable manner is a dabl	record data (or demonstrate the phenomena if
An opposition should show that:		
<ul> <li>the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the state</li> </ul>	nderstanding of the presented concepts, theories oponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the d and questioned the <i>validity</i> of the <i>data</i> • the
A review should show that:		
• the reviewer succeeded in giving an <i>objec</i>	tive summary of the performances the reporter	and opponent • the reviewer appreciated the
important aspects (especially the controvers such personal opinions were informative, no	ial ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the re	evidence (not just superficial observations) •
principles and appropriate mathematics used	d by the reporter and the opponent	viewer's understanding or concepts, theories,
<ul> <li>The reporter, opponent and reviewer of the consider the following suggestions to a select each partial grade from each second</li> </ul>	consists of a partial grade for <i>physics, present</i> each start with 5 points.  add to or deduct from the initial 5 points.  Ition and write it in the corresponding box.  It of questions were posed or not finding shorted	
Rep.: Thoiland 5	Opp.: Georgia 5	Rev.: UK 5
Physics ±3	Physics ±3 +1	Physics ±3
☐ Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	☐ Scientific approach	☐ Scientific approach
Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	☐ Overall impression
Seporter ±1	Opponent ±1	Reviewer ±1
<ul><li>Quality of experimental technique(s)</li></ul>	Response to the reporter's solution	Provides a thorough review of report and discussion

 $\square$  Shows the strong and weak points

Finds shortcomings or errors in

☐ Relevance of the questions

☐ Contribution to the discussion

of the report

the report

Final Grade: Reporter Final Grade: Opponent

☐ Structure

symbols

Explanation of formulae and

Appropriate models, conformity of dimensions

☐ Slides, on-site experiments, audio,

References, proper citations of ideas and input of others

☐ Contribution to the discussion

video, as appropriate

☐ Novelty of the report

Final Grade: Reviewer

do not bend

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 - piease

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	Δ.	
	Fight (Round no.): 4 Roon	n: <u>G</u> Stage: <u>2</u> Problem no.: <u>10</u>
Scoring Guidelir	1es Juror: KUNDRALIK	ge and the same an
application of appropriate mathematics • re	ts, theories and principles of the problem • an expandable experimental technique to gather and approximental findings to draw suitable conclusionable manner	ecord data (or demonstrate the phenomena if
An opposition should show that: • the opponent challenged the reporter's un appropriate mathematics presented • the opponent appreciated and highlighted the str	nderstanding of the presented concepts, theories oponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the dand questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controvers	tive summary of the performances the reporter ial ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the red by the reporter and the opponent	evidence (not just superficial observations) •
The <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> endoctors to a Consider the following <i>suggestions</i> to a Select each partial grade from each sections.	consists of a partial grade for <i>physics, present</i> each <i>start with 5 points</i> .  add to or <i>deduct</i> from the initial <i>5 points</i> .  Stion and <i>write it</i> in the corresponding box.  To questions were posed or not finding shorter	
Rep.: GEORGIA 5	Opp.: 06	Rev.: THAILAND 5
hysics ±3	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	☐ Scientific approach	☐ Scientific approach
lacksquare validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
Accurate answers	☐ Accurate answers	☐ Accurate answers
resentation ±1	Presentation ±1 + 0,5	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
Appropriate manner	☐ Appropriate manner	☐ Appropriate manner

# ☐ Accurate answers Presentation ±1

☐ Scientific approach

☐ Validity of conclusions

Physics ±3

☐ Clear and understandable

☐ Appropriate manner

☐ Overall impression

## Reporter ±1

Quality of experimental technique(s)

☐ Structure

Explanation of formulae and symbols

☐ Appropriate models, conformity of dimensions

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

References, proper citations of ideas and input of others

☐ Novelty of the report

Final Grade: Reporter

☐ Contribution to the discussion

Ph	VS	ics	±3

#### Pre

☐ 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

☐ Relevance of the questions

Final Grade: Opponent

☐ Contribution to the discussion

☐ Overall impression

### Reviewer ±1

☐ Provides a thorough review of report 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: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03



S	CO	ri	in	g	G	U	d	e	September 1		n	e	S	
				Careful I				-	_	_			_	

Fight (Round no.):	4 Room	: Stage:	Problem no.:	10
Juror: <u>Klaus</u>	Poller	Signature:		

• 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 record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

#### 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

#### 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
- 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.
- Consider the following *suggestions* to *add* to or *deduct* from the initial *5 points*.
- Select each partial grade from each section and write it in the corresponding box.

<ul> <li>Don't punish missing 'answers' when n</li> </ul>	o questions were posed or not finding shortco	omings if there were none to find.
Rep.: Georgia 5	Opp.: 444 5	Rev.: Thailand 5
Physics ±3 + 7.5	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
☐ Scientific approach	☐ Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	☐ Overall impression	☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	☐ Shows the strong and weak points	☐ Expresses own opinion about
☐ Explanation of formulae and	of the report	topics presented or discussed
symbols  Appropriate models, conformity	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
<ul> <li>Appropriate models, conformity of dimensions</li> </ul>	☐ Relevance of the questions	☐ Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we com- archive your partial grades — please
☐ Contribution to the discussion		do not bend
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Final Grade: Opponent

Final Grade: Reviewer

Revised after IOC feedback and approved by EC on 2011-11-03

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Carrier Carialalia	Fight (Round no.): Room	n: $\underline{\underline{G}}$ Stage: $\underline{\underline{2}}$ Problem no.: $\underline{\underline{10}}$
Scoring Guideling	1es Juror: JAGMAR PANOSOVA	Signature: Ru
application of appropriate mathematics • re	ts, theories and principles of the problem • an e easonable experimental technique to gather and r experimental findings to draw suitable conclusion	ecord data (or demonstrate the phenomena if
An opposition should show that:  • the opponent challenged the reporter's ur	nderstanding of the presented concepts, theories apponent critiqued the experimental technique use	and <i>principles</i> • the opponent understood the dand questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controvers	tive summary of the performances the reporter is in ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the red by the reporter and the opponent	evidence (not just superficial observations) •
<ul> <li>The reporter, opponent and reviewer e</li> <li>Consider the following suggestions to e</li> <li>Select each partial grade from each sec</li> </ul>	consists of a partial grade for <i>physics, present</i> each <i>start with 5 points</i> .  add to or <i>deduct</i> from the initial <i>5 points</i> .  ction and <i>write it</i> in the corresponding box.  o questions were posed or not finding shortco	
Rep.: Georgia 5	Opp.: 4K 5	Rev.: Thailand 5
Physics ±3	Physics ±3	Physics ±3
☐ Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
☐ Scientific approach	☐ Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation ±1 + 1/4	Presentation ±1 + 1/2	Presentation ±1
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
☐ Overall impression	☐ Overall impression	☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	Shows the strong and weak points	Expresses own opinion about
Explanation of formulae and symbols	of the report  Finds shortcomings or errors in	topics presented or discussed  Relevance of questions to both the
Appropriate models, conformity of dimensions	the report  Relevance of the questions	reporter and the opponent  Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we are fight assistant, so we are please archive your partial grades - please
T Contribution to the discussion	en soon and	do not bend

Final Grade: Opponent

Final Grade: Reporter

Final Grade: Reviewer Revised after IOC feedback and approved by EC on 2011-11-03

	Fight (Round no.): Ro	om: <u>G .</u> Stage: <u>2</u> Problem no.:
Scoring Guidelii		Signature: Slly Yudis
application of appropriate mathematics • r	easonable <b>experimental technique</b> to <b>gather</b> ar experimental findings to draw suitable conclu	n explanation of the observed phenomena • and director data (or demonstrate the phenomena if sions • an attempt to communicate difficult or
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the st	nderstanding of the presented concepts, theoric pponent critiqued the experimental technique t	es and principles • the opponent understood the used and questioned the validity of the data • the
A review should show that:		
important aspects (especially the controver	sial ones) • the reviewer's personal opinion wan on-trivial and demonstrated, where possible, the	er and opponent • the reviewer appreciated the sin evidence (not just superficial observations) • ereviewer's understanding of concepts, theories,
The <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> Consider the following <i>suggestions</i> to Select each partial grade from each se	consists of a partial grade for <i>physics</i> , <i>prese</i> each <i>start with 5 points</i> . <i>add</i> to or <i>deduct</i> from the initial <i>5 points</i> .  ction and <i>write it</i> in the corresponding box.  no questions were posed or not finding shor	
San Garaga	10-11-11-11-11-11-11-11-11-11-11-11-11-1	
Rep.: 4079 a 5	Opp.: 4. 4. 5	<b>Rev.:</b> 5
Physics ±3	Physics ±3	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	☐ Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
Accurate answers	☐ Accurate answers	☐ Accurate answers
resentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
Appropriate manner	☐ Appropriate manner	☐ Appropriate manner
Overall impression	Overall impression	☐ Overall impression
eporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
Structure  Explanation of formulae and	Shows the strong and weak point of the report	Expresses own opinion about topics presented or discussed
symbols	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
Appropriate models, conformity of dimensions	☐ Relevance of the questions	☐ Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the

 $\square$  Contribution to the discussion Final Grade: Reporter

References, proper citations of ideas and input of others

☐ Novelty of the report

Final Grade: Opponent

Final Grade: Reviewer Servised after IOC feedback and approved by EC on 2011-11-03

do not bend

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

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<b>6</b>		# #	1	-	# 5	#			#	#			Carlo Carlo
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						-		4	_	-		-	400

Scoring Guidel	Fight (Round no.): Roc	
	Juror: Cfluscky unh floo	Signature: VCC
application of appropriate mathematics	ecepts, theories and principles of the problem • and • reasonable experimental technique to gather and experimental findings to draw suitable conclustandable manner	record data (or demonstrate the phenomena if
appropriate mathematics presented * th	at: 's understanding of the presented concepts, theorie ne opponent critiqued the experimental technique us e strengths and weaknesses of the report	s and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
A review should show that:  • the reviewer succeeded in giving an oimportant aspects (especially the contro	bjective summary of the performances the reporte versial ones) • the reviewer's personal opinion was of non-trivial and demonstrated, where possible, the	in evidence (not just superficial observations) .
<ul> <li>The reporter, opponent and review</li> <li>Consider the following suggestions</li> <li>Select each partial grade from each</li> </ul>	ms consists of a partial grade for <i>physics</i> , <i>preserver</i> each <i>start with 5 points</i> .  to <i>add</i> to or <i>deduct</i> from the initial <i>5 points</i> .  section and <i>write it</i> in the corresponding box. en no questions were posed or not finding short	
Rep.: GEOGTA 5	Opp.: <u>UK</u> 5	Rev.: THAT LAND. 5
Physics ±3	Physics ±3	Physics ±3
<ul><li>☐ Correct and relevant physics</li><li>☐ Scientific approach</li><li>☐ Validity of conclusions</li><li>☐ Accurate answers</li></ul>	Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
<ul><li>Clear and understandable</li><li>Appropriate manner</li><li>Overall impression</li></ul>	Clear and understandable  Appropriate manner  Overall impression	Clear and understandable  Appropriate manner  Overall impression
Reporter ±1 +0.5	Opponent ±1 +0.3	Reviewer ±1 +0.1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
Structure	Shows the strong and weak points of the report	1
☐ Explanation of formulae and symbols	Finds shortcomings or errors in the report	Relevance of questions to both th
☐ Appropriate models, conformity of dimensions	Relevance of the questions	reporter and the opponent  Draws attention to points missed
<ul><li>Slides, on-site experiments, audi video, as appropriate</li></ul>	o, Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
Novelty of the report		archive your partial grades
Contribution to the discussion	H16 +12	do not bend
Final Grade: Reporter	Final Grade: Opponent Revised	Final Grade: Reviewer  after IOC feedback and approved by EC on 2011-11-03

		Fight (Round no.): Roon	n: Stage:	· I
Scoring	Guidelines	Juror: Mattias Anderson	Signature	M

right (Round no.):	Koom:		tage: _~	Problem no.:
Juror: Mattica	Anderson	Signature:		A

• 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 record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

1 ,

#### 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

#### 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
- 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.
- Consider the following suggestions to add to or deduct from the initial 5 points.

<ul> <li>Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.</li> </ul>								
Rep.: Georgia 5	Opp.: UK 5	Rev.: Thailand 5						
Physics ±3  ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers  Presentation ±1 ☐ Clear and understandable ☐ Appropriate mapper	Physics ±3  ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers  Presentation ±1 ☐ Clear and understandable	Physics ±3  ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers  Presentation ±1 ☐ Clear and understandable						
☐ Appropriate manner ☐ Overall impression	☐ Appropriate manner ☐ Overall impression	☐ Appropriate manner ☐ Overall impression						
Reporter ±1 -0.5	Opponent ±1 +0, 5  ☐ Response to the reporter's	Reviewer ±1  Provides a thorough review of						
technique(s)  Structure  Explanation of formulae and symbols	solution  Shows the strong and weak points of the report  Finds shortcomings or errors in	report and discussion  Expresses own opinion about topics presented or discussed  Relevance of questions to both the						
<ul> <li>□ Appropriate models, conformity of dimensions</li> <li>□ Slides, on-site experiments, audio, video, as appropriate</li> </ul>	the report  Relevance of the questions  Contribution to the discussion	praws attention to points missed by the reporter or the opponent						
<ul> <li>□ References, proper citations of ideas and input of others</li> <li>□ Novelty of the report</li> <li>□ Contribution to the discussion</li> </ul>		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades – please do not bend						
grant and the contract of the								

Final Grade: Reporter

Final Grade: Opponent

Final Grade: Reviewer

		Fight (Round no.): Room	1: <u>U</u>	Stage:	Problem no.
Scoring	Guidelines	Juror: KUNDRALLIK	_ Signature	e: Ulla	uas

Scoring Guiaeiin	IES Juror: KUNDRHEUK	Signature: Mudlay
application of appropriate mathematics • re	s, theories and principles of the problem • an e asonable experimental technique to gather and r sperimental findings to draw suitable conclusion lable manner	ecord data (or demonstrate the phenomena if
An opposition should show that:  • the opponent challenged the reporter's unit	derstanding of the presented concepts, theories a ponent critiqued the experimental technique used	and <i>principles</i> • the opponent understood the data • the
important aspects (especially the controversi	tive summary of the performances the reporter a ial ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the re I by the reporter and the opponent	evidence (not just superficial observations) •
The <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> e Consider the following <i>suggestions</i> to <i>a</i> Select each partial grade from each sec	consists of a partial grade for <i>physics, present</i> each <i>start with 5 points</i> .  Sidd to or <i>deduct</i> from the initial <i>5 points</i> .  Ition and <i>write it</i> in the corresponding box.  To questions were posed or not finding shortco	
Rep.: <u>UK</u> 5	Opp.: THAILAND 5	Rev.: 650861 A 5
Physics ±3	Physics ±3 +0.5	Physics ±3
Correct and relevant physics	☐ Correct and relevant physics	Correct and relevant physics
Scientific approach	☐ Scientific approach	Scientific approach
Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
Accurate answers	☐ Accurate answers	☐ Accurate answers
Presentation $\pm 1$	Presentation ±1	Presentation ±1
Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
Annronriate manner	Appropriate mapper	Appropriate manage

Appropriate manner

## ☐ Overall impression

# Reporter ±1

Quality of experimental technique(s)

☐ Structure

Explanation of formulae and symbols

Appropriate models, conformity of dimensions

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

References, proper citations of ideas and input of others

☐ Novelty of the report

☐ Contribution to the discussion

」 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

☐ Relevance of the questions

☐ Contribution to the discussion

□ Appropriate manner

☐ Overall impression

Reviewer ±1

☐ Provides a thorough review of report 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: Reviewer



Final Grade: Reporter Final Grade: Opponent

	Fight (Round no.):	Room: 6 Stage: 3 Problem no.:
Scoring Guidelines	Juror: Klaus Pille	Signature:

	Juror: Maus Kolled	Signature:
application of appropriate mathematics • re	es, theories and principles of the problem • an establishmental technique to gather and interpretable conclusion of the manner	ecord data (or demonstrate the phenomena if
An opposition should show that: • the opponent challenged the reporter's unappropriate mathematics presented • the opponent appreciated and highlighted the street	derstanding of the presented concepts, theories oponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the d and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controvers	tive summary of the performances the reporter ial ones) • the reviewer's personal opinion was in n-trivial and demonstrated, where possible, the real by the reporter and the opponent	evidence (not just superficial observations)
<ul> <li>The reporter, opponent and reviewer expensions</li> <li>Consider the following suggestions to a Select each partial grade from each sec</li> </ul>	consists of a partial grade for <i>physics, present</i> each <i>start with 5 points</i> .  add to or <i>deduct</i> from the initial <i>5 points</i> .  tion and <i>write it</i> in the corresponding box.  to questions were posed or not finding shorter	
Rep.: <u>UU</u> 5	Opp.: Thailand 5	Rev.: Georgia 5
Physics ±3	Physics ±3	Physics ±3 + Z
Correct and relevant physics	Correct and relevant physics	☐ Correct and relevant physics
Scientific approach	☐ Scientific approach	☐ Scientific approach
」 Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	LJ Accurate answers
Presentation ±1	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	☐ Clear and understandable
J Appropriate manner	Appropriate manner	☐ Appropriate manner
J Overall impression	Overall impression	☐ Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
] Structure	☐ Shows the strong and weak points	Expresses own opinion about
Explanation of formulae and	of the report	topics presented or discussed
symbols  Appropriate models, conformity	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
of dimensions	☐ Relevance of the questions	☐ Draws attention to points missed

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

Draws attention to points missed by the reporter or the opponent

do not bend

Final Grade: Reporter

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

References, proper citations of ideas and input of others

☐ Contribution to the discussion

☐ Novelty of the report

Final Grade: Opponent

☐ Contribution to the discussion

61

Final Grade: Reviewer



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Fight (Round no.):	4 Room:		age: <u>3</u>	Problem no.:	14
Juror: 1964AD	PANOSOVA'	Signature:	fau.		

• 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 record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

#### 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

#### 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
- 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.
- Consider the following suggestions to add to or deduct from the initial 5 points.

	ction and write it in the corresponding box. To questions were posed or not finding shortc	omings if there were none to find.
Rep.: <u>MK</u> 5	Opp.: Thailand 5	Rev.: Giorgia 5
Physics ±3	Physics ±3	Physics ±3
☐ Correct and relevant physics	☐ Correct and relevant physics	Correct and relevant physics
Scientific approach	☐ Scientific approach	☐ Scientific approach
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions
☐ Accurate answers	☐ Accurate answers	Accurate answers
Presentation ±1	Presentation ±1	Presentation $\pm 1$ $+ \frac{7}{2}$
☐ Clear and understandable	☐ Clear and understandable	☐ Clear and understandable
Appropriate manner Fine	☐ Appropriate manner	☐ Appropriate manner
Overall impression	☐ Overall impression	Overall impression
Reporter ±1	Opponent ±1	Reviewer ±1
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
☐ Structure	☐ Shows the strong and weak points	Expresses own opinion about
☐ Explanation of formulae and	of the report	topics presented or discussed
symbols  Appropriate models, conformity	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
of dimensions	☐ Relevance of the questions	☐ Draws attention to points missed
Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to the discussion	Draws attention to points missed by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report		fight assistant, so we con- archive your partial grades – please
☐ Contribution to the discussion		do not bend
h	protection and an artist and a second	-

Final Grade: Opponent

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	_		-	town!	-	400.00	207	Alba Ri	Victory.	235	22	100	882	A. C. C.	9

Fight (Round no.):	H Room:	Stage:	3 Problem no.: _	
Juror: Thubit	JUY	Signature: 40 %	. Lucid	

Revised after IOC feedback and approved by EC on 2011

Α	report	should	include:
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• 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 record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

#### 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

#### 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
- 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.
- Consider the following suggestions to add to or deduct from the initial 5 points.

<ul><li>Select each partial grade from each sec</li><li>Don't punish missing 'answers' when n</li></ul>	ction and <i>write it</i> in the corresponding box. To questions were posed or not finding shortco	omings if there were none to find.		
Rep.:	Opp.: The a fame 5	Rev.: 4 9 5		
Physics ±3	Physics ±3	Physics ±3		
☐ Correct and relevant physics	☐ Correct and relevant physics	Correct and relevant physics		
Scientific approach	☐ Scientific approach	Scientific approach		
☐ Validity of conclusions	☐ Validity of conclusions	☐ Validity of conclusions		
☐ Accurate answers	☐ Accurate answers	☐ Accurate answers		
Presentation ±1	Presentation ±1	Presentation ±1		
Clear and understandable	Clear and understandable	☐ Clear and understandable		
☐ Appropriate manner	☐ Appropriate manner	☐ Appropriate manner		
Overall impression	☐ Overall impression	Overall impression		
Reporter ±1	Opponent ±1	Reviewer ±1		
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion		
☐ Structure	☐ Shows the strong and weak points	Expresses own opinion about		
☐ Explanation of formulae and	of the report	topics presented or discussed		
symbols  Appropriate models, conformity	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent		
of dimensions	☐ Relevance of the questions	Draws attention to points missed by the reporter or the opponent		
Slides, on-site experiments, audio, video, as appropriate	Contribution to the discussion	by the reporter or the opponent		
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and		
☐ Novelty of the report		archive your partial grades		
☐ Contribution to the discussion		do not bend		

# Scoring Guidelines

G Stage:  $\frac{3}{9}$  Problem no.:  $\frac{14}{9}$  Signature:  $\frac{14}{9}$ 

#### 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 record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

#### 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

A review should show that:		
• the reviewer succeeded in giving an ob	<i>jective summary</i> of the performances the <i>reporter</i> versial ones) • the reviewer's personal opinion was i	and opponent • the reviewer appreciated the
such personal opinions were <i>informative</i> ,	non-trivial and demonstrated, where possible, the i	reviewer's <i>understanding</i> of <i>concepts</i> , theories.
principles and appropriate mathematics (	sed by the reporter and the opponent	, , , , , , , , , , , , , , , , , , , ,
<ul> <li>The grade for each of the three tean</li> </ul>	ns consists of a partial grade for <i>physics, prese</i> n	station and for their specific role
<ul> <li>The reporter, opponent and reviewe</li> </ul>	er each start with 5 points.	same of their specific fole.
	to <b>add</b> to or <b>deduct</b> from the initial <b>5 points</b> .	
	section and write it in the corresponding box.	
bon t punish missing answers when	n no questions were posed or not finding shortd	comings if there were none to find.
Rep.: 1	Opp.: THATLAND	Rev.: GEOGIA
5	5	5
Physics ±3	Physics ±3	Physics ±3 +1.5
Correct and relevant physics	☐ Correct and relevant physics	#DfCorrect and relevant physics
Scientific approach	Scientific approach	Scientific approach
→ □ Validity of conclusions	□ ¡Validity of conclusions	☐-Validity of conclusions
→□ †Accurate answers	☐ `Accurate answers	□ Accurate answers
Presentation +1 + 05	D. 0.15	
n is the control of the first property of the control of the contr	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	☐†Clear and understandable
☐ Appropriate manner	☐ Appropriate manner	☐ <del>†</del> Appropriate manner
☐ Overall impression	☐ Overall impression	Overall impression
Reporter ±1 -0.5	Oppopert +1 FA3	5-1-1-1-1
	Obbonent II	Reviewer ±1 ±0.5
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of report and discussion
-□ Structure	☐ Shows the strong and weak points	TExpresses own opinion about
Explanation of formulae and	of the report	topics presented or discussed
symbols	☐ Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
Appropriate models, conformity of dimensions	†□†Relevance of the questions	Draws attention to points missed
<ul> <li>Slides, on-site experiments, audic video, as appropriate</li> </ul>	Contribution to the discussion	by the reporter or the opponent
References, proper citations of ideas and input of others		This sheet will be collected by the fight assistant, so we can scan it and
☐ Novelty of the report	35	fight assistant, so we archive your partial grades – please
☐ Contribution to the discussion —		do not bend
		- Contracting Cont
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Final Grade: Opponent

Final Grade: Reviewer //
Revised after IOC feedback and approved by EC on 2011-11-03

		Fight (Round no.):	Room:	<u> </u>	Stage: _	<u> </u>	_ Proble
Scoring	Guidelines	Juror: Mathias A	vderson.	Signatur	۵۰	1	TA

А	rep	ort	shou	Id	in	clude	
~	2 4- 24	18.51	311 V	1.00	8 2 5 5		

• 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 record data (or demonstrate the phenomena if appropriate) • linking of theoretical and experimental findings to draw suitable conclusions • an attempt to communicate difficult or complex ideas in an effective and understandable manner

2

#### 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

#### A review should show that:

Final Grade: Reporter

- 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
- 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.

<ul> <li>Consider the following suggestions to add to or deduct from the initial 5 points.</li> <li>Select each partial grade from each section and write it in the corresponding box.</li> <li>Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.</li> </ul>					
Rep.: <u>UK</u> 5	Opp.: Thailard 5	Rev.: Georgia 5			
Physics ±3  Correct and relevant physics Scientific approach	Physics ±3  Correct and relevant physics  Scientific approach  Challengle	Physics ±3  ☐ Correct and relevant physics ☐ Scientific approach			
☐ Validity of conclusions ☐ Accurate answers	☐ Validity of conclusions of Physics ☐ Accurate answers	☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers			
Presentation ±1  ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1  ☐ Clear and understandable — ☐ Appropriate manner ☐ Overall impression	Presentation ±1  ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression			
Reporter ±1	Opponent ±1	Reviewer ±1 +0.5			
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and	Response to the reporter's solution Not discussing report which Shows the strong and weak points of the report	Provides a thorough review of report and discussion  Expresses own opinion about topics presented or discussed			
symbols  Appropriate models, conformity of dimensions	<ul><li>☐ Finds shortcomings or errors in the report</li><li>☐ Relevance of the questions</li></ul>	Relevance of questions to both the reporter and the opponent  Draws attention to points missed			
☐ Slides, on-site experiments, audio, video, as appropriate ☐ References, proper citations of ideas and input of others	☐ Contribution to the discussion	by the reporter or the opponent  This sheet will be collected by the			
Novelty of the report  Contribution to the discussion		This sheet will be constant and fight assistant, so we can scan it and archive your partial grades – please do not bend			
		promised the control of the control			

Final Grade: Opponent