	Fight (Round no.):3	Room: K Stage: Problem no.: 13
Scoring Guideli	nes Juror: Frank Cond	Signature:
	Ferry SA	3 signature.
A report should include:	V	
application of appropriate mathematics • 1	reasonable <b>experimental technique</b> to <i>gathe</i> <i>experimental findings</i> to draw <i>suitable co</i>	• an explanation of the observed phenomena • an er and record data (or demonstrate the phenomena if nclusions • an attempt to communicate difficult or
An opposition should show that • the opponent challenged the reporter's u appropriate mathematics presented • the c opponent appreciated and highlighted the s	inderstanding of the presented concepts, the proponent critiqued the experimental technia	eories 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	rsial ones) • the reviewer's <i>personal opinion</i> on-trivial and demonstrated, where pos <b>s</b> ible	porter and opponent • the reviewer appreciated the was in evidence (not just superficial observations) • , the reviewer's understanding of concepts, theories,
<ul> <li>The reporter, opponent and reviewer</li> <li>Consider the following suggestions to</li> <li>Select each partial grade from each se</li> </ul>	add to or deduct from the initial 5 point ection and write it in the corresponding b	ts.
Rep.:   ran 5	Opp.: Chinese Tarker 5	Rev.: Smith and 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 ☐ 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	☐ 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 ☐ Explanation of formulae and	Shows the strong and weak po of the report	ints Expresses own opinion about 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  Slides, on-site experiments, audio,	☐ Relevance of the questions ☐ Contribution to the discussion	Draws attention to points missed by the reporter or the opponent
video, as appropriate  References, proper citations of ideas and input of others		This sheet will be collected by the
		The same of the sa
Novelty of the report		archive your partial grades "
Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer evised after IOC feedback and approved by EC on 2011-11-03

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	6			

Fight (Rour	nd no.): _	3_	Room:	<u>_k</u>	Stage:		Problem no.:	
Juror: P	eter	Rein	eller	Signatur	e. 7	le	Man Le	

#### 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

<ul> <li>The reporter, opponent and reviewer</li> <li>Consider the following suggestions to</li> <li>Select each partial grade from each see</li> </ul>	consists of a partial grade for <i>physics, presen</i> each <i>start with 5 points</i> .  add to or deduct from the initial <i>5 points</i> .  ction and write it in the corresponding box.  no questions were posed or not finding shortc	
Rep.: Milva Arapour 5  Physics ±3  Correct and relevant physics  Scientific approach  Validity of conclusions  Accurate answers	Opp.: 1 - Hstangblya 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
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  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	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	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 fight assistant, so we can scan it and archive your partial grades – please do not bend
wang comp	6	Standary

Final Grade: Reporter \_\_\_\_\_\_

Final Grade: Opponent

Scoring Guidelines	Sc	orii	19	Gui	ide	li	nes
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Fight (Round no.):	3 Room:	K Stage: _	Problem no.:	13
Juror: Mattia	s Alless Si	gnature:	M.A.	

Final Grade: Reviewer Provided By FC on 2011-11-03

#### 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.

<ul> <li>Select each partial grade from each sec</li> </ul>	ction and write it in the corresponding box.  To questions were posed or not finding shortco	omings if there were none to find.
Rep.:   rau   5	Opp.: Chin. Taigei 5	Rev.: Snitzerland 5
Physics ±3 +2	Physics ±3 +2	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 -0,5	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 Too form	☐ 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	LI 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	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 be a please archive your partial grades – please
Contribution to the discussion		do not bend
	getinen mining on age to make the second	

Capring Cuidali	Fight (Round no	.): <u>3</u> Roor	n: K Stage: P	roblem no.: 👢
Scoring Guideli	INES Juror: CHUN	h ryunh 400	Signature:	My
A report should include:			V /	<u> </u>
• a presentation of the appropriate concumplication of appropriate mathematics • appropriate) • linking of theoretical and complex ideas in an effective and understo	reasonable experimental technic experimental findings to draw	que to <i>aather</i> and	record data for demonstrate th	e nhonamona if
An opposition should show that • the opponent challenged the reporter's appropriate mathematics presented • the opponent appreciated and highlighted the	understanding of the presented opponent critiqued the experime	ntal technique use	and <i>principles</i> • the opponent d and questioned the <i>validity</i> o	understood the f the <i>data</i> • the
A review should show that:  • the reviewer succeeded in giving an obj	iective summary of the performa	nces the <i>reporter</i>	and <i>opponent</i> • the reviewer a	appreciated the
important aspects (especially the controve such personal opinions were informative, i principles and appropriate mathematics us	<i>non-trivial</i> and demonstrated, wh	ere possible, the re	n evidence ( <i>not</i> just s <i>uperficial</i> eviewer's <i>understanding</i> of <i>con</i>	observations) • cepts, theories,
The grade for each of the three team	is consists of a partial grade fo	r physics, present	tation and for their specific r	role
<ul> <li>The reporter, opponent and reviewe</li> </ul>	r each start with 5 points.		and the then opening	oic.
<ul> <li>Consider the following suggestions to</li> <li>Select each partial grade from each s</li> </ul>	o <i>add</i> to or <i>deduct</i> from the in ection and <i>write it</i> in the corre	itial <i>5 points.</i> esponding box.		
<ul> <li>Don't punish missing 'answers' when</li> </ul>	no questions were posed or n	ot finding shortco	omings if there were none to	find.
Rep.: IHAN -	1000 CH = 11252	TATPEL	Rev.: SwitzEh	CAMP
5	Opp.: CHTNESE	5	Rev.:	5
Physics ±3 + 0174	Physics ±3	401	Physics ±3	+0,7
Correct and relevant physics	+□+Correct and relevan	t physics	†□ Correct and relevan	t physics
☐ Scientific approach ☐ Validity of conclusions	Scientific approach		Scientific approach	
☐ Accurate answers	☐ Validity of conclusion ☐ Accurate answers	ons	☐ Validity of conclusio	ins
	- Accordic answers	CONTRACTOR AND	Accurate answers	
Presentation ±1 + 0(5)	Presentation ±1	0	Presentation ±1	+ 013
Clear and understandable	☐ Clear and understar	ıdable	Clear and understan	dable
☐ Appropriate manner	Appropriate manner	r	†□ Appropriate mannei	•
Overall impression	Overall impression		Overall impression	
Reporter ±1	Opponent ±1	+ 0.4	Reviewer ±1	105
J Quality of experimental technique(s)	Response to the rep		Provides a thorough report and discussio	review of n
Structure  Explanation of formulae and	Shows the strong an of the report		Expresses own opinition topics presented or a	discussed
symbols  Appropriate models, conformity of dimensions	Finds shortcomings of the report		Relevance of question reporter and the opp	ns to both th onent
Slides, on-site experiments, audio.	Relevance of the que	1	Draws attention to p by the reporter or th	oints missed e opponent
video, as appropriate  References, proper citations of ideas and input of others		4015	This sheet will be colli	ected by the
Novelty of the report	*			III 20am L
. (シトグ	5)		archive your partial gr	2003 5.4.
Contribution to the discussion	<b>*</b>		do not bend	
Final Grade: Reporter	Final Grade: Opponent	6	Final Grade: Reviewer fter IOC feedback and approved by	1

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Scorin	gGI	uide	line	5
	4			Juror:

Fight (Round no.)	): Room:	K_Stage:	Pr	oblem no.: 13
Juror: Hossk	Ro ofus	Signature:/	Q/A	<i>y</i>

#### 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 on

<ul> <li>The reporter, opponent and reviewer of the Consider the following suggestions to a Select each partial grade from each second</li> </ul>	each start with 5 points.  add to or deduct from the initial 5 points.  ction and write it in the corresponding box.  to questions were posed or not finding shortco	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Rep.:	Opp.: Chilese Tange 5	Rev.: Standard 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>	<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
Presentation ±1	Presentation ±1	Presentation ±1
<ul><li>☐ Clear and understandable</li><li>☐ Appropriate manner</li><li>☐ Overall impression</li></ul>	<ul><li>☐ Clear and understandable</li><li>☐ Appropriate manner</li><li>☐ Overall impression</li></ul>	☐ Clear and understandable ☐ Appropriate manner ☐ 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 ☐ 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 the reporter and the opponent
of dimensions  Slides, on-site experiments, audio,	☐ Relevance of the questions ☐ Contribution to the discussion	Draws attention to points missed by the reporter or the opponent
video, as appropriate  References, proper citations of	- Continuation to the discussion	in he rellected by the
ideas and input of others  Novelty of the report		This sheet will be constant and fight assistant, so we can scan it and archive your partial grades – please
Contribution to the discussion		do not bend
6	7	

Final Grade: Reporter

Final Grade: Opponent

# Scoring Guidelines

Fight (Round no.):	Room	: <u>k</u> Stage	: Problem no.: /3
Juror: ### /F	YEO	Signature:	M.

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

#### 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.

<ul> <li>Don't punish missing 'answers' when r</li> </ul>	ction and <i>write it</i> in the corresponding box. no questions were posed or not finding shortc	omings if there were none to find.
Rep.:5	<b>Opp.:</b> 5	<b>Rev.:</b> 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	Presentation ±1  ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1
Reporter ±1  Quality of experimental technique(s)	Opponent ±1  Response to the reporter's	Reviewer ±1  Provides a thorough review of
□ Structure □ Explanation of formulae and symbols	Shows the strong and weak points of the report	report and discussion  Expresses own opinion about topics presented or discussed
Appropriate models, conformity of dimensions  Slides, on-site experiments, audio	☐ Finds shortcomings or errors in the report ☐ Relevance of the questions ☐ Contribution to the discussion	Relevance of questions to both the reporter and the opponent  Draws attention to points missed by the reporter or the opponent
video, as appropriate  References, proper citations of ideas and input of others  Novelty of the report		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please
Contribution to the discussion		do not bend

Cooring Carialali		Fight (Round no.)	:	om:k Stage: Problem no.:S
Scoring Guideli	nes	Juror: Feng	Sont	Signature:S
application of appropriate mathematics •	reasonable ex experimenta	xperimental techniqu I findings to draw s	ue to <i>aather</i> and	explanation of the observed phenomena • and record data (of demonstrate the phenomena if ions • an attempt to communicate difficult or
An opposition should show that  • the opponent challenged the reporter's u	: Inderstanding	g of the presented co	ital technique u	s and principles • the opponent understood the sed and questioned the validity of the data • the
A review should show that:  • the reviewer succeeded in giving an objeimportant aspects (especially the controver)	ctive summa sial ones) • t	<i>Iry</i> of the performan the reviewer's <i>persoi</i> demonstrated, whe	ces the <i>reporte</i> nal opinion was  re possible, the	r and opponent • the reviewer appreciated the in evidence (not just superficial observations) • reviewer's understanding of concepts, theories,
<ul> <li>The grade for each of the three teams</li> <li>The reporter, opponent and reviewer</li> <li>Consider the following suggestions to</li> <li>Select each partial grade from each se</li> <li>Don't punish missing 'answers' when</li> </ul>	each start wadd to or d ction and w	<i>with 5 points</i> . <i>leduct</i> from the init <i>rite it</i> in the corres	cial <i>5 points</i> .	
Rep.: China Tuipei 5	1	Switzlong	5	Rev.: 1xan 5
Physics ±3  Correct and relevant physics Scientific approach Validity of conclusions Accurate answers	☐ Scie	cs ±3 rect and relevant ratific approach dity of conclusion urate answers	. ,	Physics ±3  ☐ Correct and relevant physics ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
Presentation ±1  ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clea	ntation ±1 or and understand ropriate manner rall impression	dable	Presentation ±1  Clear and understandable  Appropriate manner  Overall impression
Reporter ±1	Oppon	ent ±1		Reviewer ±1
Uguality of experimental technique(s)	solut			Provides a thorough review of report and discussion
☐ Structure ☐ Explanation of formulae and	of th	vs the strong and e report	·	Expresses own opinion about topics presented or discussed
symbols  Appropriate models, conformity	the r	s shortcomings or eport		Relevance of questions to both the reporter and the opponent
of dimensions  Slides, on-site experiments, audio,	l	vance of the ques ribution to the di		Draws attention to points missed by the reporter or the opponent
video, as appropriate  References, proper citations of ideas and input of others	SOUTH AND THE PARTY AND THE PA			This sheet will be collected by the
Novelty of the report	The state of the s			This sheet will be can scan it and fight assistant, so we can scan it and archive your partial grades – please
Contribution to the discussion				do not bend
Final Grade: Reporter	Final Gra	ade: Opponent	5	Final Grade: Reviewer

Casulina		Fight (	Round no.):	: <u> </u>	_ Room:	<u>K_</u>	Stage:		Pro
Scoring	Guidelines	Juror:	Peter	Reine	Ker	Signature	٥٠	Peler	

Scoring Guidelines	rigiit (KC	puna no.) Dalsa	: Davidad	_ Room: //a		Stage: <sub>-</sub>	D 1.	Problem no.: .	<u> </u>
	Juror:	1 et v	<u> 19aner</u>	1th	Signature	e:	1 er	Maril	ren

#### 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 performa

importunt aspects (especially the controve	rsial ones) • the reviewer's personal opinion was non-trivial and demonstrated, where possible, the need by the reporter and the opponent	is cuidonon (mother) est a a
<ul> <li>Consider the following suggestions to</li> <li>Select each partial grade from each se</li> </ul>	s consists of a partial grade for <i>physics, preser</i> each start with 5 points. To add to or deduct from the initial 5 points. Tection and write it in the corresponding box. The no questions were posed or not finding short	
Rep.: YI-Hang Maye 5	Opp.: Eric Switzerland 5	Rev.: Kampank Ikda, 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
Clear and understandable Appropriate manner Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	☐ Clear and understandable ☐ Appropriate manner ☐ 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
<ul><li>Structure</li><li>Explanation of formulae and</li></ul>	Shows the strong and weak points of the report	Expresses own opinion about topics presented or discussed
symbols  Appropriate models, conformity of dimensions	Finds shortcomings or errors in the report  Relevance of the questions	Relevance of questions to both the 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 the definition of the fight assistant and the fight assistant and the definition of the fight assistant and the fight as a figh
Contribution to the discussion		do not bend
Final Grade: Reporter	Final Grades Owners 6	7

Final Grade: Opponent

Scoring Guidelines	S	CO	ring	Gui	del	ines
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Scoring Guidelines	Fight (Round no.): 3 Room: Stage: 2 Problem no.:  Juror: Malhins Anderso Signature: M.A.
application of appropriate mathematics • reasonable e	s and principles of the problem • an explanation of the observed phenomena • an experimental technique to gather and record data (or demonstrate the phenomena if all findings to draw suitable conclusions • an attempt to communicate difficult or ner
An opposition should show that: • the opponent challenged the reporter's understandin appropriate mathematics presented • the opponent cri opponent appreciated and highlighted the strengths and	og of the presented concepts, theories and principles • the opponent understood the tiqued the experimental technique used and questioned the validity of the data • the dweaknesses of the report
important aspects (especially the controversial ones) •	ary of the performances the reporter and opponent • the reviewer appreciated the the reviewer's personal opinion was in evidence (not just superficial observations) • d demonstrated, where possible, the reviewer's understanding of concepts, theories, porter and the opponent

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

Final Grade: Reporter

- the reviewer succeeded in giving an objective summ important aspects (especially the controversial ones) such personal opinions were informative, non-trivial a principles and appropriate mathematics used by the re
- 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 no questions were posed or not finding shortcomings if there were none to find.</li> </ul>					
Rep.: Chin, Tripai 5	Opp.: Switzerland 5	Rev.: 1/22 5			
Physics ±3	Physics ±3 +1.5	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	☐ Accurate answers			
Dragontation 14					
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 -05	Opponent ±1 + 0,5	Reviewer ±1 +/			
Reporter ±1	Opponent ±1 + 0.5  Response to the reporter's solution	Reviewer ±1 +/  Provides a thorough review of report and discussion			
Quality of experimental	Response to the reporter's solution  Shows the strong and weak points	Provides a thorough review of report and discussion			
Quality of experimental technique(s)  Structure  Explanation of formulae and	Response to the reporter's solution	Provides a thorough review of report and discussion			
Quality of experimental technique(s)  Structure  Explanation of formulae and symbols	Response to the reporter's solution  Shows the strong and weak points	Provides a thorough review of report and discussion  Expresses own opinion about			
Quality of experimental technique(s)  Structure  Explanation of formulae and	Response to the reporter's solution  Shows the strong and weak points of the report  Finds shortcomings or errors in the report	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			
Quality of experimental technique(s)  Structure  Explanation of formulae and symbols	Response to the reporter's solution  Shows the strong and weak points of the report  Finds shortcomings or errors in the report	Provides a thorough review of report and discussion  Expresses own opinion about topics presented or discussed  Relevance of questions to both the			
Quality of experimental technique(s)  Structure  Explanation of formulae and symbols  Appropriate models, conformity of dimensions  Slides, on-site experiments, audio.	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	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			
☐ Quality of experimental technique(s) ☐ Structure ☐ Explanation of formulae and symbols ☐ Appropriate models, conformity of dimensions ☐ Slides, on-site experiments, audio, video, as appropriate	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	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			
□ 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	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	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			

Final Grade: Opponent

	7	1, 5
Scoring Guideli		poom: Stage: Problem no.: 5
e e e e e e e e e e e e e e e e e e e	nes Juror: CHUNG BYUNG	Signature: Will-UU
A report should include:		
application of appropriate mathematics •	reasonable experimental technique to gather a experimental findings to draw suitable conclusions.	an explanation of the observed phenomena • an and record data (or demonstrate the phenomena if usions • an attempt to communicate difficult or
An opposition should show that		
• the opponent <i>challenged</i> the <i>reporter's</i> appropriate mathematics presented • the opponent appreciated and highlighted the	opponent critiqued the experimental technique	ies and principles • the opponent understood the used and questioned the validity of the data • the
A review should show that:		
important aspects (especially the controve such personal opinions were informative, i	rsial ones) • the reviewer's personal opinion wa non-trivial and demonstrated, where possible, th	ter and opponent • the reviewer appreciated the as in evidence (not just superficial observations) • the reviewer's understanding of concepts, theories,
principles and appropriate mathematics us	ed by the reporter and the opponent	
<ul> <li>The reporter, opponent and reviewer</li> <li>Consider the following suggestions to</li> <li>Select each partial grade from each select</li> </ul>	s consists of a partial grade for <i>physics, pres</i> reach start with 5 points.  Do add to or deduct from the initial 5 points.  ection and write it in the corresponding box no questions were posed or not finding sho	
モA=DFT		
Rep.: CHINESE (MY 5	Opp.: Switzer LAND 5	Rev.: IRAN 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 +0.4	Presentation ±1	Presentation ±1
Clear and understandable	Clear and understandable	f☐ Clear and understandable
Appropriate manner	Appropriate manner	Appropriate manner
U Overall impression	Overall impression	U Overall impression
Reporter ±1 + 0.3	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
Structure	Shows the strong and weak point of the report	ts Expresses own opinion about
Explanation of formulae and symbols	†□†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		archive your partial grades
Contribution to the discussion	1.9	do not bend
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer sed after IOC feedback and approved by EC on 2011-11-03

Cearina	Cuidalina	Fight (Round no.): Room:/ Stage	: Probler
Scoring	Guidelines	Juror: Harst hilf Signature:	4/1/1

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

<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.: Chiruce Tripu 5	Opp.: Switzvland 5	Rev.: 3 va a 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	Presentation ±1  ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 □ Clear and understandable □ Appropriate manner □ 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 ☐ 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 of dimensions	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent				
Slides, on-site experiments, audio, video, as appropriate	☐ Relevance of the questions ☐ 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 com- archive your partial grades – please				
Contribution to the discussion		do not bend				
6	_	· · · · · · · · · · · · · · · · · · ·				

Final Grade: Opponent

		é		
Scoring Guidelii	Fight (Round no Juror:	o.):3 Room	n: Kage: Stage: Signature:	Problem no.: 5
A report should include:  • a presentation of the appropriate conception application of appropriate mathematics • reappropriate) • linking of theoretical and examples ideas in an effective and understand	easonable <b>experimental techn</b> <b>xperimental findings</b> to drav	ique to <i>gather</i> and <i>i</i>	record data (or demonstra	ite the phenomena if
An opposition should show that: • the opponent <i>challenged</i> the <i>reporter's unappropriate mathematics</i> presented • the opponent appreciated and highlighted the st	pponent <i>critiqued</i> the <i>experim</i>	ne <mark>ntal technique</mark> use	and <i>principles</i> • the oppo d and questioned the <i>valid</i>	nent understood the lity of the data • the
A review should show that:  • the reviewer succeeded in giving an object important aspects (especially the controvers such personal opinions were informative, no principles and appropriate mathematics use	sial ones) • the reviewer's <i>per</i> in-trivial and demonstrated, w	<b>sonal opinion</b> was in there possible, the re	n evidence ( <i>not</i> just <i>superf</i>	icial observations) •
The grade for each of the three teams The <i>reporter</i> , <i>opponent</i> and <i>reviewer</i> Consider the following <i>suggestions</i> to Select each partial grade from each see Don't punish missing 'answers' when r	each start with 5 points. add to or deduct from the i ction and write it in the con	nitial <i>5 points</i> . responding box.		
Rep.:5	Opp.:	5	Rev.:	5
Physics ±3	Physics ±3	0	Physics ±3	41
☐ Correct and relevant physics	☐ Correct and releva	nt physics	☐ Correct and rele	evant physics

	1	
Rep.: 5	Opp.:5	Rev.: 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	Expresses own opinion about topics presented or discussed
symbols	Finds shortcomings or errors in	$\square$ Relevance of questions to both the
Appropriate models, conformity of dimensions	the report	reporter and the opponent
	☐ 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 of 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 or archive your partial grades — please
☐ Contribution to the discussion		do not bend
· · · · · · · · · · · · · · · · · · ·	product to management of the control	

Final Grade: Reporter

Final Grade: Opponent

Final Grade: Reviewer

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

	Fight (Round	d no.): F	100m: <u>K</u>	_ Stage: _ <u>3</u>	_ Problem no.:8			
Scoring Guideling	1 <i>es</i>	v Sove	Signatu	ire: Te	w Co			
		J I		7	7 0			
A report should include:  • a presentation of the appropriate concep application of appropriate mathematics • reappropriate) • linking of theoretical and ecomplex ideas in an effective and understand	easonable <b>experimental te</b> <b>xperimental findings</b> to d	chnique to gather	and <i>record dat</i>	a (or demonstra	te the <i>phenomena</i> if			
An opposition should show that: • the opponent challenged the reporter's ur appropriate mathematics presented • the opponent appreciated and highlighted the st	pponent <i>critiqued</i> the <i>expe</i>	rimental technique	ries and princi <sub>l</sub> used and que	oles • the oppor	nent understood the lity of the data • the			
A review should show that:								
<ul> <li>the reviewer succeeded in giving an object important aspects (especially the controvers such personal opinions were informative, no principles and appropriate mathematics used</li> </ul>	ial ones) • the reviewer's p n-trivial and demonstrated	<i>personal opinion</i> w l, where possible, t	as in evidence	(not just superfi	cial observations) •			
<ul> <li>The grade for each of the three teams</li> <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> <li>Don't punish missing 'answers' when n</li> </ul>	each s <b>tart with 5 points.</b> add to or deduct from th ction and write it in the c	e initial <i>5 points.</i> corresponding bo	x.					
Rep.: Switzland 5	Opp.: Tran	5	Rev.	: Chine To	tupei 5			
Physics ±3	Physics ±3	14	Phys	ics ±3	-et }			
Correct and relevant physics	☐ Correct and rele	vant physics	_	rrect and rele	vant physics			
☐ Scientific approach	Scientific approa		l	ientific approa				
☐ Validity of conclusions ☐ Accurate answers	☐ Validity of concl☐ Accurate answe		l	☐ Validity of conclusions ☐ Accurate answers				
Presentation ±1	Presentation ±1	. (5.	Prese	entation ±1				
☐ Clear and understandable	☐ Clear and under	•	_	ar and under				
Appropriate manner	☐ Appropriate ma	nner	I	propriate mai				
Overall impression	Overall impressi	on	│□ ov	erall impressi	on			
Reporter ±1	Opponent ±1	41	Revie	wer ±1	41			
Quality of experimental technique(s)	Response to the solution	reporter's	☐ Pro	ovides a thoro oort and discu	ugh review of ssion			
☐ Structure	Shows the strong of the report	g and weak poi		Expresses own opinion about topics presented or discussed				
Explanation of formulae and symbols	Finds shortcoming the report	ngs or errors in	☐ Rel	evance of que	estions to both the			
Appropriate models, conformity of dimensions	Relevance of the	questions	□ Dra	reporter and the opponent  Draws attention to points missed				
☐ Slides, on-site experiments, audio, video, as appropriate	☐ Contribution to t	he discussion	by	the reporter c	or the opponent			
References, proper citations of ideas and input of others			1		collected by the we can scan it and			
☐ Novelty of the report			a	archive your partial grades				
☐ Contribution to the discussion			d	o not bend				
Final Grade: Reporter	Final Grade: Oppon		Final (	Grade: Review edback and approv	er			

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		8 8	2 2	88	2		8		Sec.	2	M	# #	•	

Fight (Round no	.): <u>3                                    </u>	_Room:	<u> </u>	Stage:	3	Problem no.:	
Juror: Pola	Perine	her	Signatur	/ و ••	Pela	Mornelan	

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 <i>informative</i> , no principles and appropriate mathematics use	on-trivial and demonstrated, where possible, the red by the reporter and the opponent	reviewer's understanding of concepts, theories,		
<ul> <li>The reporter, opponent and reviewer</li> <li>Consider the following suggestions to</li> <li>Select each partial grade from each se</li> </ul>	consists of a partial grade for <i>physics, presen</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 shorte			
Rep.: Julia Alcus 5	Opp.: <u>kampan W. Heday</u> 5	Rev.: Young Afra 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>	<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		
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		
Quality of experimental technique(s)	Response to the reporter's solution	Provides a thorough review of		
☐ Structure ☐ Explanation of formulae and	Shows the strong and weak points of the report	report and discussion  Expresses own opinion about topics presented or discussed		
symbols  Appropriate models, conformity of dimensions	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent		
Slides, on-site experiments, audio, video, as appropriate	☐ Relevance of the questions ☐ Contribution to the discussion	Draws attention to points missed by the reporter or the opponent		
References, proper citations of ideas and input of others  Novelty of the report		This sheet will be collected by the fight assistant, so we can scan it and archive your partial grades — please		
Contribution to the discussion		do not bend		
		And the second s		

Final Grade: Reporter Final Grade: Opponent

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	5.11/5							
Scoring Guidelii	1es  Juror: Maltics Audanso	n: K Stage: 3 Problem no.: Signature: MA						
application of appropriate mathematics • n	ets, theories and principles of the problem • an e easonable experimental technique to gather and experimental findings to draw suitable conclusion dable manner	record data (or demanstrate the nhenomena 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 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						
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 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.  Don't punish missing 'answers' when no questions were posed or not finding shortcomings if there were none to find.  ep.: Switzerland 5   Opp.:   ran 5   Rev.: Chin Taipai 5								
hysics ±3	Physics ±3	Physics ±3 +1						
Correct and relevant physics	☐ Correct and relevant physics	☐ Correct and relevant physics						
J 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	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						

This sheet will be collected by the References, proper citations of ideas and input of others fight assistant, so we can scan it and archive your partial grades - please ☐ Novelty of the report  $\square$  Contribution to the discussion

do not bend

Final Grade: Reporter

Final Grade: Opponent

Scoring	Guidalinas	Fight (Round no.): R	oom: K	_ Stage:	_ Problem no
	Guiueimes	Juror: CHUNG BYUNGH	ಾಂ() Signatui	re: <u>[</u>	·W

Д	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 controver such personal opinions were informative, no principles and appropriate mathematics use	<b>on-trivial</b> and demonstrated, where	onssible the r	n evidence ( <b>not</b> just superficial obs eviewer's understanding of concep	servations) • ots, theories,
<ul> <li>The grade for each of the three teams</li> <li>The reporter, opponent and reviewer</li> <li>Consider the following suggestions to</li> <li>Select each partial grade from each se</li> <li>Don't punish missing 'answers' when residual</li> </ul>	each start with 5 points. add to or deduct from the initiaction and write it in the corresp	ol <b>5 points</b> .	Omings if there were none to fir	nd
Rep.: SWITZERLAND 5	Opp.: IRAN	5	Rev.: CHTNESE TA	5
Physics ±3	Physics ±3	1112	Physics ±3	11.2
Correct and relevant physics  Scientific approach  Validity of conclusions  Accurate answers	Correct and relevant p  Scientific approach  Validity of conclusions  Accurate answers	·	☐ Correct and relevant p ☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers	
Presentation ±1  Clear and understandable +0 +9  Appropriate manner Overall impression	Presentation ±1  ☐ Clear and understanda ☐ Appropriate manner ☐ Overall impression	+013	Presentation ±1  ☐ Clear and understanda ☐ Appropriate manner ☐ Overall impression	+0.3
Reporter $\pm 1$ $+0.7$	Opponent ±1	F0.5	Reviewer ±1	+0.5
Quality of experimental technique(s)	Response to the report solution	ter's	Provides a thorough rereport and discussion	Managara announced
☐ Structure ☐ Explanation of formulae and symbols	Shows the strong and vof the report  Finds shortcomings or o	·	Expresses own opinion topics presented or disc	cussed
Appropriate models, conformity of dimensions	the report  Relevance of the quest		Relevance of questions reporter and the oppor	ent
Slides, on-site experiments, audio, video, as appropriate	The state of the quest		Draws attention to poir by the reporter or the c	pponent
References, proper citations of ideas and input of others		And the second s	This sheet will be collected	ed by the + Leo
Name of the second seco	35	£2.0	This sheet will be so the fight assistant, so we can se archive your partial grade	the first to the
Contribution to the discussion		1 0	do not bend	
Final Grade: Reporter	Final Grade: Opponent	Revised a	Final Grade: Reviewer  ofter IOC feedback and approved by EC	on 2011-11-03

	Fight (Round no.): Room:K Stage:	Proble.
Scoring Guideline	S Juror: Horst Rithur Signature: All	School of the State of the Stat

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:

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

<ul> <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.: Swift about 5	Opp.: 30un 5	Rev.: Chiune Taipa 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 —	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	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 care archive your partial grades – please	
☐ Contribution to the discussion		do not bend	
		O CONTRACTOR CONTRACTO	

Final Grade: Opponent

## Scoring Guidelines

Fight (Round no.):	Room: Kage:	<u></u>
Juror: YE YEO	Signature:	(tot)

#### 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.

<ul> <li>The reporter, opponent and reviewer each start with 5 points.</li> <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>			
<b>Rep.:</b> 5	<b>Opp.:</b> 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	
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	
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 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 Revised a	Final Grade: Reviewer ofter IOC feedback and approved by EC on 2011-11-03	