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J	CO	<i>i i</i>				H			Ø,	6	11	C	3
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Fight (Round no.):	4	Room:		Stage: _	4 lanasasses.	Problem no.:	10
Juror: J. BAL	dom	BE	Signatur	e: 4	2	Bu	

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>Select each partial grade from each sec</li> <li>Don't punish missing 'answers' when n</li> </ul>	ction and write it in the corresponding box. To questions were posed or not finding shorto	omings if there were none to find.
Rep.: Chiene Tage 5	Opp.: Austria 5	<b>Rev.:</b>
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
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	Final Grade: Reviewer

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Fight (Round no.):	Room:	E_s	tage:	Problem no.:	10
Juror: Angela	- tosel	Signature:	Auge	le Hos	el_

Α	re	port	shoul	d	inc	dud	e:

• 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

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- 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. ction and write it in the corresponding box. to questions were posed or not finding shortc	omings if there were none to find.
Rep.: Chinese 5	Opp.: Austria 5	Rev.: New 5
Physics ±3 +2	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 +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 +0,5	<b>Opponent ±1</b> +0,5	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	☐ 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	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 are archive your partial grades – please
☐ Contribution to the discussion		do not bend
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Final Grade: Reporter

Final Grade: Reviewer

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

Scoring Guidelines	ng Guidell	ines	
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Rep.: Chinese laippi

☐ Scientific approach

□ Accurate answers

Presentation ±1

☐ Overall impression

Reporter ±1

☐ Structure

□ Validity of conclusions

☐ Clear and understandable

☐ Quality of experimental

☐ Correct and relevant physics

Physics ±3

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Scoring Guideli	nes  Fight (Round no.): 4 Roo  Juror: T. Cachehilad	m: Stage: Problem no.:(
application of appropriate mathematics of	ots, theories and principles of the problem • an reasonable experimental technique to gather and experimental findings to draw suitable conclusions.	explanation of the observed phenomena • an record data (or demonstrate the phenomena if ions • an attempt to communicate difficult or
An opposition should show that: • the opponent challenged the reporter's u appropriate mathematics presented • the o opponent appreciated and highlighted the st	nderstanding of the presented concepts, theories	and <i>principles</i> • the opponent understood the ed and questioned the <i>validity</i> of the <i>data</i> • the
important aspects (especially the controver	ctive summary of the performances the reporter isial ones) • the reviewer's personal opinion was contrivial and demonstrated, where possible, the standard the reporter and the opponent	in 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 se	consists of a partial grade for <i>physics, preser</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 shorte	
Rep.: Chinese Taipei 5	Opp.: Austria 5	Rev.: New Zealand 5
Chysics ±3  Correct and relevant physics  Scientific approach	Physics ±3  © Correct and relevant physics  Scientific approach	Physics ±3  Correct and relevant physics
Validity of conclusions  Accurate answers	✓ Validity of conclusions  Accurate answers	☐ Scientific approach ☐ Validity of conclusions ☐ Accurate answers
resentation ±1  Clear and understandable  Appropriate manner  Overall impression	Presentation ±1  ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression	Presentation ±1 (ℓ, )  ☐ Clear and understandable ☐ Appropriate manner ☐ Overall impression
Quality of experimental technique(s)	Opponent ±1  Response to the reporter's solution	Reviewer ±1
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	Finds shortcomings or errors in the report  Relevance of the questions	Relevance of questions to both the reporter and the opponent  Draws attention to points missed by the reporter or the opponent
Slides, on-site experiments, audio, video, as appropriate  References, proper citations of ideas and input of others	Contribution to the discussion	he collected by the
Novelty of the report  Contribution to the discussion		This sheet will be do not bend fight assistant, so we can scan it and archive your partial grades – please do not bend

Final Grade: Reporter

Final Grade: Opponent

Scoring Guideli		om:E Stage:/ Problem no.:/
	Juror: <u>Naewei (ao</u>	Signature: X Coo
application of appropriate mathematics • r	easonable <b>experimental technique</b> to <b>gather</b> an experimental findings to draw suitable conclu	n <i>explanation</i> of the <i>observed phenomena</i> • an d <i>record data</i> (or <i>demonstrate</i> the <i>phenomena</i> if <i>sions</i> • an attempt to communicate <i>difficult</i> or
An opposition should show that: • the opponent challenged the reporter's u appropriate mathematics presented • the opponent appreciated and highlighted the st	nderstanding of the presented concepts, theorie pponent critiqued the experimental technique	es and principles • the opponent understood the used and questioned the validity of the data • the
important aspects (especially the controver	sial ones) • the reviewer's personal opinion was on-trivial and demonstrated, where possible, the	er and opponent • the reviewer appreciated the sin evidence (not just superficial observations) • e 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 set</li> </ul>	consists of a partial grade for <i>physics, prese</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 shor	
Rep.: Taifei 5	Opp.: Austria 5	<b>Rev.:</b> N = 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  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	Opponent ±1  Response to the reporter's solution  Shows the strong and weak points	Reviewer ±1
Explanation of formulae and symbols  Appropriate models, conformity	of the report  Finds shortcomings or errors in the report	Expresses own opinion about topics presented or discussed  Relevance of questions to both the reporter and the opponent
of dimensions  ☐ 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

Final Grade: Opponent

Final Grade: Reporter

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Cooring Cuidali	Fight (Round no.): Roor	m: E Stage: Problem no.:
Scoring Guidelin	Juror: Jong Ton	_ Signature:
application of appropriate mathematics • re	ts, theories and principles of the problem • an easonable experimental technique to gather and appropriately appro	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 oponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the ed 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-trivial and demonstrated, where possible, the reporter and the opponent	n evidence (not just superficial observations) •
<ul> <li>The reporter, opponent and reviewer</li> <li>Consider the following suggestions to</li> <li>Select each partial grade from each sec</li> </ul>	consists of a partial grade for <i>physics, presen</i> 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 shorto	
Rep.: Clause Teijse 5	Opp.: Aushi'a 5	Rev.: New Zealas. 5
Physics ±3	Physics ±3 +0.5	Physics ±3 +0.5
<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 +0.7	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>	<ul><li>☐ Clear and understandable</li><li>☐ Appropriate manner</li><li>☐ Overall impression</li></ul>
Reporter ±1 +0.5	Opponent ±1	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	☐ 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  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		do not bend

Final Grade: Reporter

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

		n: Stage: Problem no.:			
Scoring Guidelin	Juror: Annar MH2				
application of appropriate mathematics • re	ts, theories and principles of the problem • an estate as a seasonable 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 oponent critiqued the experimental technique use rengths and weaknesses of the report	and <i>principles</i> • the opponent understood the ed 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 grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.</li> <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>					
Rep.: Chiaese Taiféi 5	Opp.: Austria 5	Rev.: New Eadand 5			
Physics ±3 +Z	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>	<ul><li>☐ Correct and relevant physics</li><li>☐ Scientific approach</li><li>☐ Validity of conclusions</li><li>☐ Accurate answers</li></ul>			
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 + 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	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 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			
M Novelty of the many		fight assistant, and grades - please			

Final Grade: Reporter

☐ Novelty of the report

☐ Contribution to the discussion

Final Grade: Opponent

do not bend

Final Grade: Reviewer

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

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Fight (Round no.): 4 Room	n: <u>E</u> Stage: <u>2</u> Problem no.: _	Valla i je priv spagnega
Juror: J. BALCOMBE	_ Signature:	

Α	report	should	include	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

# 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

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- Consider the following suggestions to add to or deduct from the initial 5 points.
- Select each partial grade from each

<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.: Ambria 5	Opp.: New Zealand 5	Rev.: Chune Taiper 5				
Physics ±3  Correct and relevant physics Scientific approach Validity of conclusions Accurate answers  Presentation ±1  Clear and understandable Appropriate manner Overall impression	Physics ±3  Correct and relevant physics Scientific approach Validity of conclusions Accurate answers  Presentation ±1  Clear and understandable Appropriate manner Overall impression	Physics ±3  Correct and relevant physics Scientific approach Validity of conclusions Accurate answers  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 report and discussion				
☐ Structure ☐ Explanation of formulae and symbols	☐ Shows the strong and weak points of the report ☐ Finds shortcomings or errors in	Expresses own opinion about topics presented or discussed  Relevance of guestions to both the				
Appropriate models, conformity of dimensions	the report  Relevance of the questions	reporter and the opponent  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		archive your partial grades Pro				
Contribution to the discussion		do not bend				

Final Grade: Reporter

Final Grade: Opponent

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_	-	-	-	-	_	-	- Augus	₩.E	HE:	- C	4000	***	20	<b>88</b>	8	Sept. 1	1000 P

Fight (Round no.): 4 Room: _	E Stage: 2 Problem no.: 1
Juror: Angela Foselsi	gnature: Argela Fise

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

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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

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- 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 select</li> <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.: Austria 5	Opp.: New Lealand 5	Rev.: Chinese 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
☐ 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	turner.
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 contain assistant, so we contain a please archive your partial grades — please
Contribution to the discussion		do not bend
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Final Grade: Opponent

Consider Cariolalia	Fight (Round no.): Room: Stage: Pro	ol
Scoring Guidelines	Juror: T. Gachechiladze Signature: a. 118,41	

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

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- The grade for each of the three teams consists of a partial grade for physics, presentation and for their specific role.

<ul> <li>Select each partial grade from each sec</li> </ul>	each start with 5 points.  add to or deduct from the initial 5 points.  Etion and write it in the corresponding box.  o questions were posed or not finding shortco	omings if there were none to find.
Rep.: Austria 5	Opp.: New Zealand 5	Rev.: Chinese Taipei 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 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 guestions 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	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
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Final Grade: Opponent

Scoring Guidelines	Fight (Round no.): Room Juror: Xuewei Cas	Signature: X Can	
A report should include:			

ate 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

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• 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>Select each partial grade from each sec</li> </ul>	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 shortc	omings if there were none to find.
Rep.: Austria 5	Opp.: <u>N</u> 2 5	Rev.: Toipe i 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 6	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	$\square$ 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		fight assistant, so we can archive your partial grades – please
Contribution to the discussion		do not bend
Final Grade: Reporter 5	Final Grade: Opponent	Final Grade: Reviewer

Scoring Guideli	Fight (Round no.): Roon  Nes  Juror:	m: E Stage: Problem no.:
application of appropriate mathematics • r	ots, theories and principles of the problem • an easonable 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 ed 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 the fontion of the reviewer's personal opinion was in the reporter and the opponent	n evidence (not just superficial observations)
<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>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 shorto	
Rep.: String 5	Opp.: Newrealus 5	Rev.: Taipei 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
<ul><li>☑ Clear and understandable</li><li>☑ Appropriate manner</li></ul>	☐ Clear and understandable	☐ Clear and understandable
Overall impression	☐ Overall impression	☐ Appropriate manner
	L Overall Impression	Overall impression
Reporter ±1 +0.5	Opponent ±1	Reviewer ±1 fo.T
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	topics presented or discussed
Appropriate models, conformity of dimensions	Finds shortcomings or errors in the report	Relevance of questions to both the reporter and the opponent
processory.	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	
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

Final Grade: Reporter

Final Grade: Opponent Final Grade: Reviewer

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

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Scoring Guidelin		n: Stage: Problem no.:
	Juror: Othman MARTI	Signature: Mung Mand
application of appropriate mathematics • re	ts, theories and principles of the problem • an easonable 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 state.	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
important aspects (especially the controvers	tive summary of the performances the reporter sial 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 Consider the following suggestions to a Select each partial grade from each second Don't punish missing 'answers' when note that the second suggestion is a second suggestion of the second suggestion.</li> </ul>	add to or deduct from the initial 5 points.  Ition and write it in the corresponding box.  It o questions were posed or not finding shorter	omings if there were none to find.
Rep.: Austria 5	Opp.: New Ecaland 5	Rev.: Chinese layou 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>	<ul> <li>☐ Correct and relevant physics</li> <li>☐ Scientific approach</li> <li>☐ Validity of conclusions</li> <li>☐ Accurate answers</li> </ul>
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
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 fight assistant, so we can scan it and
Novelty of the report		fight assistant, so we con-

Final Grade: Opponent

 $\square$  Novelty of the report

Final Grade: Reporter

☐ Contribution to the discussion

Final Grade: Reviewer

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

do not bend

archive your partial grades - please

Scoring Guidelines
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Fight (Round no.):	<u>/</u> Room:	_ Stage: 🔌	Problem no.:
		10	2.
Juror: J. BALE	Signatu	re:	DA

## 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:

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 sec</li> </ul>	tion and write it in the corresponding box.  In questions were posed or not finding shortco	omings if there were none to find.
Rep.: New Zeale 1 5	Opp.: Chance Taiper 5	Rev.: Awma 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
<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 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	☐ Praws 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		do not bend
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Final Grade: Opponent

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

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Scoring	Guidelines	lurari A10

Fight (Round no.): 4 Room: E Stage: 3 Problem no.: 2

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 se</li><li>Don't punish missing 'answers' when</li></ul>	ection and write it in the corresponding box. no questions were posed or not finding shortc	omings if there were none to find.
Rep.: New Lealound 5	Opp.: Chinese Taipei 5	Rev.: Audria 5
Physics ±3 +1	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 + 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
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: Opponent

Scoring Guideline	!5	
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Rep.: New Zeglan

Correct and relevant physics

□ Scientific approach

☐ Accurate answers

Presentation ±1

☐ Validity of conclusions

Clear and understandable

Quality of experimental

☐ Appropriate models, conformity

⊕ Overall impression

☐ Novelty of the report

Reporter ±1

□ Structure

Physics ±3

	Fight (Round no.): 4 Roo	m: <u>F</u> Stage: <u>3</u> Problem no.: <u>2</u>
Scoring Guideli	nes Juror: I Gachechila	t.
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application of appropriate mathematics •	epts, theories and principles of the problem • an reasonable 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 appropriate mathematics presented • the opponent appreciated and highlighted the	understanding of the presented concepts, theories opponent critiqued the experimental technique us	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:		
important aspects (especially the controve	ective summary of the performances the reporter ersial ones) • the reviewer's personal opinion was non-trivial and demonstrated, where possible, the sed by the reporter and the opponent	in evidence (not just superficial observations)
Consider the following suggestions to Select each partial grade from each s	ection and write it in the corresponding box. no questions were posed or not finding shorted.  Opp.: Chingse Tainer	comings if there were none to find.    Rev.: Austia
hysics ±3	Physics ±3	Dhysics +2
Correct and relevant physics	☐ Correct and relevant physics	Physics ±3
Scientific approach	Scientific approach	☐ Correct and relevant physics ☐ 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
J 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 of the report	Expresses own opinion about
Explanation of formulae and symbols	Finds shortcomings or errors in the report	topics presented or discussed  Relevance of questions to both the
Appropriate models, conformity of dimensions	Relevance of the questions	reporter and the opponent
Slides, on-site experiments, audio, video, as appropriate	1	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
Mayalty of the name t		fight assistant, so we contain a nlease

Final Grade: Reporter

☐ Contribution to the discussion

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

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Scorin	g Gui	idelii	1 <i>es</i>

Fight (Round no.):	_ Room:E	Stage:	Problem no.:	2
Juror: Xuewe?	Cao Signa	ture:	Can	

Final Grade: Reviewer 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

<ul> <li>Select each partial grade from each sec</li> </ul>	add to or deduct from the initial 5 points. ction and write it in the corresponding box. o questions were posed or not finding shorter	omings if there were none to find.
<b>Rep.:</b> // 2 5	<b>Opp.:</b> <i>TP</i> 5	Rev.: Austria 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 o	Presentation ±1	Presentation ±1 6
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
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
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer

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Scoring Guideli			m: Stage: 3 Pro	oblem no.:
	Juror:	. Uhr	_ Signature:	The second secon
A report should include:  • a presentation of the appropriate concept application of appropriate mathematics • reappropriate) • linking of theoretical and ecomplex ideas in an effective and understant	easonable <b>experimental technique</b> Experimental findings to draw su	to <i>gather</i> and	record data (or demonstrate the	nhenomena if
An opposition should show that: • the opponent challenged the reporter's u appropriate mathematics presented • the o opponent appreciated and highlighted the st	nderstanding of the presented cor pponent critiqued the experiment	al technique use	and <i>principles</i> • the opponent u ed and questioned the <i>validity</i> of	nderstood the the <i>data</i> • the
A review should show that:	7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.			
<ul> <li>the reviewer succeeded in giving an objet important aspects (especially the controver, such personal opinions were informative, no principles and appropriate mathematics use</li> </ul>	sial ones) • the reviewer's <i>personc</i> on-trivial and demonstrated, where	<i>Il opinion</i> was i possible, the r	n evidence (not just conerficial o	hearications
<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 re</li> </ul>	each <i>start with 5 points.</i> <i>add</i> to or <i>deduct</i> from the initia ction and <i>write it</i> in the corresp	al <b>5 points</b> . Conding box.		
Rep.: New Zeglad. 5	Opp.: Taipei	5	Rev.: Aughia	5
Physics ±3	Physics ±3	405	Physics ±3	0
Correct and relevant physics	Correct and relevant p	hysics	☐ Correct and relevant	physics
☐ Scientific approach ☐ Validity of conclusions	Scientific approach		☐ Scientific approach	
Accurate answers	☐ Validity of conclusions☐ Accurate answers		☐ Validity of conclusion☐ Accurate answers	is
Presentation ±1	Presentation ±1	10.5	Presentation ±1	+05
Clear and understandable	☐ Clear and understanda	ble	☐ Clear and understand	lable
☐ Appropriate manner	Appropriate manner		☐ Appropriate manner	
☐ Overall impression	U Overall impression	Note that the second se	Overall impression	
Reporter ±1 -0.5	Opponent ±1	7.5	Reviewer ±1	405
Quality of experimental technique(s)	Response to the repor	ter's	Provides a thorough r report and discussion	review of
☐ Structure	Shows the strong and	weak points	Expresses own opinio	n about
Explanation of formulae and symbols	of the report  Finds shortcomings or the report	errors in	topics presented or di	iscussed is to both the
Appropriate models, conformity of dimensions	Relevance of the quest	ions	reporter and the opponent  Draws attention to points mi by the reporter or the oppon	
Slides, on-site experiments, audio, video, as appropriate	Contribution to the dis			
References, proper citations of ideas and input of others			This sheet will be collect fight assistant, so we can	1 355.
Novelty of the report			fight assistant, so we can archive your partial grad	des – please
Contribution to the discussion			do not bend	

Final Grade: Opponent

Final Grade: Reporter

		Fight (Round no.): _	T Room:	s	tage:	Problem no.: _	_
Scoring	Guidelines	Juror: OKhanai	Marti	Signature:	0/4	er/h	Con

Δ	ronort	should	inclu	do:
₽	report	SHOUIG	inciu	ae:

• 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>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.: New Tealand 5	Opp.: Chinese Taipei 5	Rev.: Austice 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		fight assistant, so we are archive your partial grades – please			
Contribution to the discussion		do not bend			
Final Grade: Reporter	Final Grade: Opponent	Final Grade: Reviewer			

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