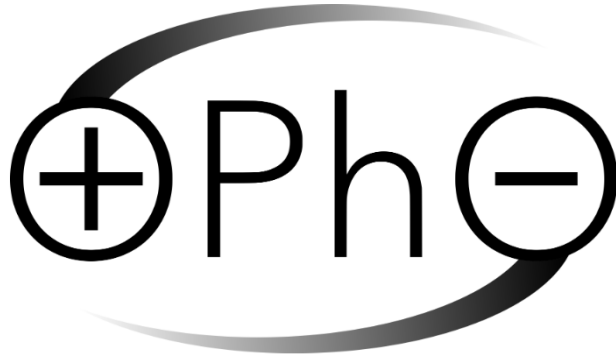


# 2020 Online Physics Olympiad (OPhO): Invitational Contest Score Report



**OPhO Lead Organizers/Writers:** Adithya Balachandran, Eddie Chen, Ashmit Dutta, Ethan Hu, Viraj Jayam, Rishab Parthasarathy, Kushal Thaman, Max Wang, QiLin Xue

**OPhO Website Developer:** Ben Oommen

**Advisors:** Dr. Branislav Kisačanin, Kye Shi, Kevin Zhou

## 1 OPhO Invitational Contest Scoring Process

The base score for each problem is dependent on the difficulty which in turn is decided by the problem writers and problem reviewers. The sub questions of each problem are awarded points based on the difficulty and the number of non-trivial steps needed to obtain the correct solution. Unlike the open round, there is no bonus for finishing a problem quicker; the final submission was graded based correctness only.

## 2 OPhO Invitational Contest Results

Thank you to the **33 finalists** that took the time to sit the 2020 Online Physics Olympiad Invitational Contest! We hope that you enjoyed the competition and will return to compete in the Open round again next year! In the style of the International Physics Olympiad, we have awarded groups of teams with gold, silver, bronze, and honorable mention placements. Congratulations! We have awarded **4 teams** with "*Gold medals*", **5 teams** with "*Silver medals*" , **10 teams** with "*Bronze medals*" , and **6 teams** with the "*Honorable Mention*" distinction! Congrats to all of our awardees!

This year's overall winner of the first ever Online Physics Olympiad is *Oachkatzlschwoaf [U]*. The top scoring high school team is *Everything is Relative*. The best one person is *ds*. The most well-written solution award go to *HX1 Tõrch* for problem 7 and the most elegant solution award goes to *Physics Geniuses* for problem 9. Below are summary of statistics; more detailed results/stats are on the next few pages.

<b>Gold Cutoff Score</b>	215.5
<b>Silver Cutoff Score</b>	177
<b>Bronze Cutoff Score</b>	139.5
<b>Honorable Mention Cutoff Score</b>	99
<b>Top Score</b>	232.5
<b>Top Individual Score</b>	219
<b>Minimum Score</b>	0

*Note:* On the next page, gold represents all teams who have received a "*Gold Medal*", gray represents the teams who have received a "*Silver Medal*", mahogany represents the teams who have received a "*Bronze Medal*", and blue represents the teams who have received the "*Honorable Mention*" distinction. Unfortunately, no actual medals are being sent out.

Ranking	Team Name	Team Members	score	Country
1	Oachkatzlschwoaf [U]	Jonathan Gräfe, Erik Sünderhauf, Max Schneider	232.5	Germany
2	Everything is Relative	Chahel Singh, Vaibhav Raj, Lakshya Gupta	219.5	India
3	d s	Daniel Sun	219	USA
4	PHYSICS GENIUSES	Pritesh Mehta, Parth Patel, Ananthkrishna Kidambi	215.5	India
5	Team Jaipur	Mridul Agarwal, Tejas Kumar, Sanandh Kataria	187.5	India
6	Astrofiziks Klub	Sahil Pontula, Joe McCarty, April Cheng	181	USA
7	GALAXY	Mousam Biswas, Sanmit Chakraborty, Purnendu Das	179.5	India
8	Quantum Tined	Ojaswi Jain, Tanmay Dokania, Aaryan Kumar Gupta	177.5	India
9	Vectorious	Vibhu Ravindran, Harihar Swaminathan, Sudharshan K V	177	India
10	Endians	Anant Lunia, Jaivardhan Singh, Varun Tokas	158.5	India
10	Valley Christian USAPhO Squad	Vittal Thirumalai, Alex Gu, Jennifer Song	158.5	USA
12	Dumbledore's Army	Stephen Jiang, Fiona Abney-McPeck, N/A (3 members)	147.5	USA, India
13	Idk	Mohammad Furquan	146.5	India
14	HX1 Törch	Victor Lequin, Andrei Barbu, Leonardo Finocchiaro	145.5	France
15	Corpus Physti	Ollie Breach, Issac Jacob, James Walkling	142.5	UK
16	Maxwells Demons	Arnav A. Singh, Ameya P. Deshmukh, Siddhant Mukherjee	141.5	India
17	kaons	Akhil Sadam, David Li	141	USA
18	The Newtonians	Sarthak, Danish Javed, Pritam Acharya	140	India
19	Blank Ideas	Jonathan Willianto, Wilsen Chandra Putra	139.5	Indonesia
20	HXII Tôôôôrch!	Simon Dima, Maurice Debray, Victor Miquel	124	France, USA
21	Leo Lover 2016	Leo Yao, Akhil Paulraj, Parth Shastri	123	USA
22	Harmonic Approxillators	Ronald Doboš, Marcel Polák, Jozef Csipes	113	Slovakia
23	KeshiEgg	Keita Tsuji, Ryunosuke Baba, Keita Okano	101	Japan
24	UraVity	Ayhan Suleymanzade, Murad Bashirov, Siraj Yahyazade	99	Azerbaijan
26	In Sandu We Trust	Dumbravă V. Ioan, Coadă A. Georgiana, Ailiesei A. Maria	89.5	Romania
26	$\pi = e = \sqrt{g} = 3$	Kartik Nair, Salil Gokhale	73	India
27	Blatarii	Isfan Alexandru-Stefan, Covei Denis, Gutoiu Raj Alexandru	54.5	Romania
28	YeetBots	Anilesh Bansal, Shashwat Kasliwal, Satyankar Chandra	53.5	India
28	Japan Team for (imaginary)IPhO2020	Tasuku Ono, Haruto Kitagawa, Yasutaka Sasaki	53.5	Japan
30	AAA	Kwanit Gangopadhyay, Aadil Akhtar, Mainak Roy	50.5	India
31	Two-Form	Sai Sanjay Narayanan, Raghuram Sundararajan	44	India
32	Invincible343	Satyam Kumar Roy, Zainul Niaz	37	India
33	Rusyanabutu in Love	Masahiro Hamada, Yuki Inada, Koki Kusumoto	24	Japan

## 2.1 Question Analysis

A brief summary of the results of the problems are provided below:

Question Number	Average Score	Total Possible Points
1	9.78	20
2	10.85	26
3	13.77	28
4	13.77	20
5	9.98	18
6	13.47	22
7	12.06	24
8	17.14	40
9	9.24	40
10	21.14	62

For more detailed breakdowns of the sub parts of the problems, click [here](#). Each teams sub parts will be displayed in their portal, so they can compare with the averages.