



REVIEWER FOR PROBLEM 10

IYNT team Greece

Reviewer: George Vlachonasios



Problem Statement

Reporter

Opponent

Discussion

Suggestions

PROBLEM STATEMENT

All the spokes in a bicycle wheel are replaced by rubber bands. If the rubber bands on one side of the wheel are heated, the wheel starts to rotate.

Investigate this effect.



PROS-CONS FOR REPORTER

- Useful details of the movement and formulas that he used. (animations)
- Analytical theoretical model
- Adequate and specific analysis of the forces
- Lots of examination on the variables (ex. type of rubber band, radius of the wheel, with and without paper)
- Lots of comparisons between the results

- No explanation of the molecular part of the phenomenon (why rubber and some other materials contract when heated).
- Didn't explain how he calculated the error bars in his graphs and some of them did not have any
- Did not explain the experimental procedure he followed enough (only when asked from the opponent)



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PROS-CONS FOR OPPONENT

- The notices were logical (experiment repetition, how is the heating performed)
- Relevant questions
- Gave really specific answers to the questions
- Spotted the lack of explanation of the of some theory parts .

- Did not notice the hypotheses of the reporter or the variety in the variables he used
- Did not notice the reporter did not explain error bars (maybe not paying attention)
- Discussion questions during the clarifying part



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POINTS DISCUSSED

Opponent

- Asked about the repeatability (2 times)
- Asked about the use of the tracker programm
- Asked about the thickness / elasticity of the rubber bands and questioned how they measured it

Reporter

- Answered said that it is enough
- Answered that they analysed each frame
- Answered that they are the same

Reviewer's opinion/explanation

- We believe that more times would be preferable for more accurate results
- Not all of the results were presented
- We agree with the point of the opponent that the elasticity of the bands should be checked



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SUGGESTIONS

The reporter should:

- Should have introduced some parts of the problem better (some theory) and also the experimental procedure.
- Increase the repeatability of the experiments (in order to have more accurate results)
- Have accurate measurements of the band elasticity

The opponent should:

- Avoid questions about factors and theory that are not relevant to the experiment presented by the reporter
- Focus on a variety of points (talked mostly about elasticity)
- Pay more attention on the presentation of the reporter



THANK YOU!

