

10th IYNT 2022; Tskneti, Georgia

Problem Rubber bands heat engine

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Problem statement

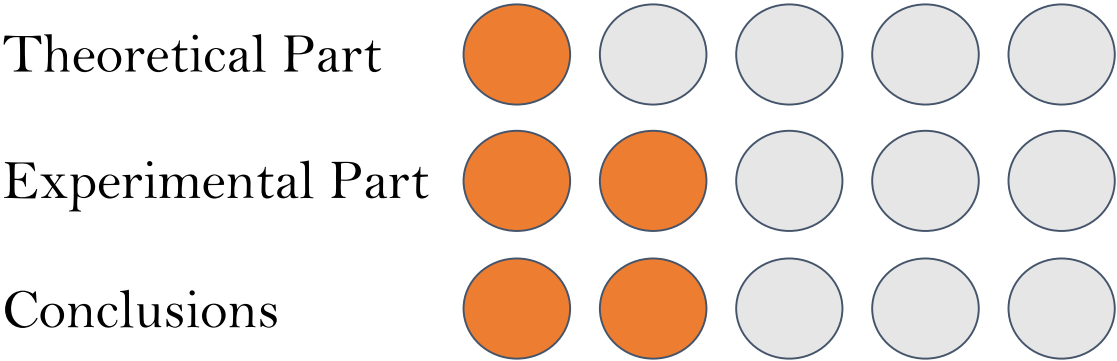
All the **spokes** in a **bicycle wheel** are replaced by **rubber bands**. If the rubber bands on **one side of the wheel** are **heated**, the wheel starts to **rotate**. **Investigate this effect.**

Report

Strong points	Weak points
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- 1. Clear steps of the experiment
- 2. Good visual aids
- 3. Said what a rubber band heat engine is

- 1. Not familiar with the theory(could not answer questions)
- 2. The phenomenon was not explained
- 3. Did not explain why the bands get smaller when heated
- 4. Did not give any hypothesis
- 5. Not clear results because he took into consideration only one try
- 6. Not clear understanding of the theory
- 7. Very poor time management
- 8. Did not vary anything in the experiment
- 9. No analysis of the data
- 10. Did not get into calculation errors which could have appeared.
- 11. Did not change the wheel after each experiment(it hurts the rubber bands)

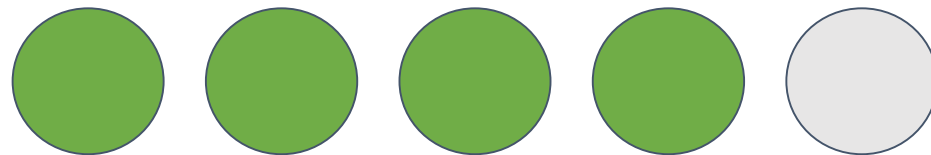


Opposition

Strong points	Weak points
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1. Showed a clear understanding of the phenomenon
2. Asked relevant questions
3. Too much attention on the theoretical part(not mathematical model)
4. tried to give solutions

1. Did not focus on the most important things(not varying the parameters)



Discussion topics

1. Do you think that used rubber bands behave differently to new rubber bands mounted on the wheel?
 - Used rubber bands could rip (agree with both)

2. Did you perform the experiment multiple times (i.e. are your results over an average)?

I performed the experiment multiple times. He did not change the wheel after each experiment.

Rubber bands get hurt (agree with opponent)