Train Michael & Noa

Judge View | Tree View | List of Debates | Hide notes | Side: None

Phase: **Make Argument** | Remaining: **< -1:00:00**

At root

0 Q (H): A train is following a circular path around a pole, held by a string. It is then switched to a smaller string and continues

H: It slows down

D: It stays at the same

Notes

Q: Is the energy of the train conserved?

H: Yes

D: No

5 Payment: H D None Recurse

Notes

Q: Is there a force acting on the train?

H: Yes.

D: Yes, because

4 Payment: H D None Recurse

Notes

Q: Are the two types of energy the train has the sum of the energy from the train moving around the track (its translational kinetic energy at each moment) and its energy from rotating around its center of mass when not considering the

H: Yes

D: Yes

6 Payment: H D None Recurse

Notes

Q: Should a long train be modeled as a single rigid body, or as a chain of rigid bodies

H: Neither, it's atoms that are somehow

D: Chain of

9 Payment: H D None Recurse

Notes

Q

Then as w = vr,
v = w/r so that

Energy = (1/2)mv^2 + (1/2)I(v/r)^2

As I, m are constant and r decreases, if v is constant Energy will increase. So v has to decrease for Energy to stay

H Correct

D Incorrect; the energy of

14 Payment: H D None Recurse

Notes