Opposition: Principle of least effort

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Problem 17. Invent yourself: Principle of least effort

Problem:
Propose an interesting experimental test of how a complex natural system chooses the path of
least resistance in particular settings or situations.

Statement:
Propose an interesting experimental test of how light chooses least resistance way during
refraction, and study this motion.

Task partially fulfilled.

Theory

1. Two theoretical models
2. Provided proof of Snell's law
3. Provided graphics for the models

1. No connection between the problem and the original statement
2. Inaccurate predictions (wavelength changes speed of light)
3. Didn't make a clear hypothesis of what would happen in the two experiments

Experiment

1. Proper and accurate experimental setup ()
2. Multiple systems analyzed
3. Variation of parameters (refraction indexes)

1. Cannot control completely the border of the different mediums
2. Theory doesn't coincide with experiment (maybe because of unclear mediums borders)
3. Doesn't vary instance angle for second experiment
4. No mention of the sources of error

Thank you!