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Learning astronomy from unphysical scenes in movies

Sunday, May 18, 2025 12:00 PM (15 minutes)

At the conclusion of our three-hour classes, it is not uncommon for students to exhibit signs of fatigue, causing a noticeable decline in their attentiveness to the lecture. This is particularly evident during physics classes when numerous theoretical equations are introduced. Following these equations for an extended period can be challenging for students, especially on warm days or after lunch. As fatigue sets in, students may start to nod off or yawn, further diminishing their ability to absorb and retain information effectively.

How can we get tired students back into the lecture? How can we keep them interested in the class content? I propose to answer this ambitious question by incorporating sci-fi movies into the class. Young generations of students are interested in sci-fi movies such as “Star Wars”, “Interstellar”, “Gravity”. “Star Trek”...etc. In fact, not a small number of students started learning physics inspired by these movies. Although some movies do a very good job of following the physics laws, however, these are still fiction. Unfortunately, they are full of unphysical phenomena/scenes, impossible to happen in the real world. In this project, we select an unphysical scene in a sci-fi movie as the topic of the week. We try to identify the problem of the scene and explain why it is unphysical, what happens if the scene follows real physics laws. In this talk, I will summarize the progress of our experiments this semester.

Section

Outreach and Education

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