

Seminar

Student Understanding of Approximations in Physics

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Making approximations constitutes a vital practice in physics that poses substantial learning hurdles at the undergraduate and even higher levels. Approximations are often viewed by students as some kind of clever ways out of getting around problems which cannot otherwise be solved in a satisfactory way. There is generally little appreciation of the epistemic role of this practice in physics, nor of the fact that it is a systematic exercise and there is a method and consistency in what many undergraduate students might regard ad hoc. We shall present an exploratory study of student understanding of some of the elementary aspects of approximations encountered in college physics. A survey with a questionnaire developed at HBCSE to probe how students deal with these aspects in a variety of contexts, reveals several significant student pitfalls in the topic. Our findings are of direct pedagogic relevance.

Wednesday, Jan 4th 2022

11:30 AM (Tea/Coffee at 11:15 AM)

Auditorium, TIFR-H