

Abstract Submitted
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Using fiction in the teaching of physics LIOR M. BURKO, Georgia Gwinnett College — Fiction has been used in teaching since Plato told the story of Atlantis. However, relatively little use is made of it in teaching physics. We have created short stories that form the basis of case studies. One short story tells the story of a possible radioactive contamination on Earth because of the detonation by terrorists of a dirty bomb in a densely populated urban area. The short story discusses in what many would find an engaging way both the physics of radioactivity and the health aspects of radiation exposure and radiation sickness. Another case tells the story of a hypothetical future crewed mission to the Moon. The astronauts encounter a giant solar flare that would inevitably give the crew lethal dose of radiation. The astronauts do not have enough time to either abort the mission, or land on the Moon and seek shelter. There is, however, something they can do, but they do not think of think of it until it is too late to do anything about it, and being saved becomes a matter of chance. This case discusses the history and future of lunar and space exploration, solar wind and space weather, and elements of planetary science. We describe some examples of short stories, and how we incorporate them in the teaching of physics and allied disciplines.

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