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Explorers of the Nuclear Cyclotron Experiment 190

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Explorers of the Nucleus: Cyclotron Experiment 190

Audio-Visual Center, Indiana Univ., Bloomington, Ind., 1987.
60 min. color.

\$700.00 16-mm film; \$180.00
 $\frac{3}{4}$ " U-matic; \$180.00 $\frac{1}{2}$ " VHS
(rental \$35.00 each)

Physics is the world view espoused by the community of people called physicists. Some of them use a common facility with many other physicists to increase the cost-effectiveness of the facility. The life style of such physicists shares many features with a wide variety of professions that use very expensive equipment. For example, personal time schedules are forced to serve the efficient schedule of the equipment as much for television producers as for cyclotron physicists.

Explorers of the Nucleus is a leisurely look at a team of physicists studying deuteron scattering with the cyclotron facility at the University of Indiana. The film illustrates the advanced planning required, the cooperative scheduling, the typical delays for particle-beam difficulties and vacuum leaks, the successful collection of the data, and the creative element of data analysis and explanation. The main characters are interesting, kindly white men with traditional life-styles who share a strong interest in physics. They and their wives are introduced and allowed to tell us a bit about themselves and the physics they do. For students planning a career in physics, this film can serve as a visual introduction to the life style of large-facility users.

But some aspects of the film bother me. It seems to me like a 1950s film in the 1980s. The film implies that physics is harder than other forms of human intellectual activity. I doubt if that's really true, although we physicists like to believe it, and I object to physicists allowing it to be claimed for them. The film shows

physicists claiming both constructivist and mechanistic views of physics. One physicist sees doing physics as being like composing music or exploring a foreign country; another one stopped writing poetry when he became a physicist. These two opposing views would make a good classroom discussion, but they pass through the film with no comment. Finally, for a variety of reasons the culture of the US has turned women and some minorities away from physics as a career. Ought we to have yet another film showing only white men doing physics? We certainly cannot hide the racial and the sexual demography of the physics community, but in an era of pluralism we probably should not advertise them.

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