



PHYSICS AND ASTRONOMY SEMINAR

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Shedding Light on the Dark Universe

Abstract

We now believe, based on overwhelming astrophysical and cosmological evidence, that atomic matter makes up only a small fraction of the energy density of the universe. A much larger fraction is composed of so-called "dark matter," a new non-baryonic form of matter. In this talk, I will review the evidence for dark matter, describe its known properties, and discuss the global program of dark matter detection experiments. I will then focus on DarkSide, a direct detection dark matter search program based on two-phase depleted argon time projection chambers. After describing some of the novel low-background techniques that we believe will allow DarkSide to achieve background levels that are both lower than, and better understood than, those in previous experiments, I will review the significant technical progress that has been made towards bringing the first physics detector in the DarkSide program to fruition.

Friday, April 13, 2012

2:00 p.m.

Engineering/ Computer Science Building
Room 130