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**Measuring the angular and seasonal dependence of the cosmic ray flux at the Earth's surface** AMANDA DEPOIAN, MATTHEW BELLIS, Siena College — The angular dependence of cosmic rays hitting the Earth's surface is affected by solar winds, the Earth's magnetic field, attenuation factors, and other effects. The overall flux can be affected by the height and density of the atmosphere, which can vary seasonally. This seasonal modulation can affect the analyses of dark matter direct detection experiments, which also look for a modulation in dark matter recoils. We have constructed a standard cosmic ray telescope, consisting of two scintillating paddles, the associate photomultiplier tubes, and some older electronics. We will be pushing the sensitivity and stability of this detector to measure angular and temporal rates over the winter and spring and look for any seasonal variations that can be correlated with environmental conditions. While the location at the Earth's surface in Albany, NY is quite different than the underground laboratories where many dark matter experiments take place, we run this experiment as a proof-of-principle to see what seasonal effects can be measured with the basic equipment available in some undergraduate labs.

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