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Environmental Effects on TPB Films[1] CHRISTIE CHIU, Massachusetts Institute of Technology — The future neutrino detector MicroBooNE at Fermilab will rely on liquid argon scintillation of wavelength 128 nm for the trigger, as well as for determining the time and location of neutrino events. To better detect this light, we use Tetraphenyl Butadiene (TPB) embedded in polystyrene which shifts the light to a peak wavelength of 425 nm. Although we would like to store TPB films for several weeks at a time, we observed that they degraded significantly after only one day. We examined environmental effects on TPB degradation by tracking the performance of several plates placed in different conditions with varying light exposure and humidity levels. We also looked at the ability of desiccation to restore TPB films. This talk presents the study of the degradation between plates kept in each condition and discusses the effectiveness of desiccation to restore the films.

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