Abstract Submitted
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East Antarctic Ice Sheets: Potential for Sub-Glacial Water Based on Temperature Modeling[1] ANNETTE BORCHARD, HEATHER HANEMAN, University of Dallas, PETER BURKETT, SRIDHAR ANANDAKRISHNAN, The Pennsylvania State University, CENTER FOR THE REMOTE SENSING OF ICE SHEETS TEAM, STUDENT RESEARCH OPPORTUNITY PROGRAM AT PENN STATE TEAM — This project addressed the issue of whether a sub-glacial lake exists at a location about 10 km from the Amundsen-Scott Station in Antarctica. Computer modeling was used to predict the temperature at the base of the ice sheet to determine whether or not it was actually frozen and thus determine whether it would be possible to drill into the lake without contaminating any potential sub-glacial water systems. Temperature data from the AMANDA (Anarctic Muon and Neutrino Detector Array) and equations from Paterson, *The Physics of Glaciers*, were used to build the model and approximate values which are not known well experimentally. The results indicated that there is a reasonable chance that liquid water exists at the base and thus that careful consideration should be taken before drilling at this site.

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