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Status and Recent Results of the South Pole Acoustic Test Setup

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The South Pole Acoustic Test Setup (SPATS) has been deployed to study the feasibility of acoustic neutrino detection in Antarctic ice around the South Pole. An array of four strings of sensors and transmitters, deployed in the upper 500 m of four IceCube boreholes, and a retrievable transmitter that can be used in the water filled holes before the installation of the IceCube optical strings are used to determine the ice acoustic parameters. These include the sound speed and its depth dependence, the attenuation length, the noise level, and the rate and nature of transient background sources in the relevant frequency range from 10 to 100 kHz. SPATS is operating successfully since January 2007 and has been able to measure or constrain all parameters. We will present the latest results of SPATS and discuss their implications for future acoustic neutrino detection activities at South Pole.

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