

## IceCube Polar Science Workshop



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# Observation of an optical anisotropy in the deep glacial ice at the geographic South Pole using a laser dust logger

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We report on the observation of a directional anisotropy in the recorded intensity of back-scattered light as measured using an oriented laser dust logger. The measurement has been performed in a drill hole at the geographic South Pole, about a kilometer away from the IceCube Neutrino Observatory. The drill hole was preserved for logging access, after the SPICEcore collaboration had retrieved a 1751 meter ice core. We find the measured, optical anisotropy axis of  $126^\circ$  to be compatible with the local flow direction. The observation is discussed in comparison to a similar anisotropy observed by the nearby IceCube Neutrino Observatory. The measurement principle, when combined with a full-chain simulation, may in the future be used to provide a continuous record of fabric properties along the entire depth of a drill hole.

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