Abstract number: S5-39
General anisotropy
30 min. invited talk

Moon and Sun Shadow Observation with IceCube

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The analysis of the Moon shadow is a standard method in IceCube to determine the angular resolution and absolute pointing capabilities of the IceCube detector at the geographic South Pole. The Sun has not been used as a calibrator thus far, as its shadow is expected to be influenced by the solar magnetic field, which deflects the cosmic rays near the solar surface. This, on the other hand, provides indirect pieces of information on the magnetic field structure of the Sun. This talk shows a first analysis of the Sun shadow with IceCube data. The analysis is based on the data of the detector configurations with 79 (IC79) and 86 strings (IC86) from 2010 through 2012. To examine the shadows, a binned method is used to compare all events from one on-source with two off-source windows. For the IC40 and IC59 configuration a deficit with a statistical significance of more than 6σ was observed.