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Improving the angular resolution in IceCube cascade reconstruction

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Neutrino interactions occurring in IceCube require accurate reconstruction techniques to quantify the neutrino's energy and arrival direction. At the highest energies, the angular resolution of IceCube is limited primarily by ice property uncertainties. Previous studies have shown that a perfect knowledge of the ice may improve cascade angular resolutions by a factor of two or more. We present a new method for evaluating the effect of ice model uncertainties and explore several channels by which the reconstructed angular resolution may be improved.

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