

Abstract Submitted  
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**Improving Directional Reconstruction for IceCube's Most Interesting Events** KYLE JERO, Univ of Wisconsin, Madison, ICECUBE COLLABORATION — The gap between IceCube's neutrino point source limits and diffuse astrophysical flux indicates a physical description of many weakly emitting sources. This picture makes the detection of an individual source via clustering methods difficult. However, by utilizing the atmospheric neutrino self veto in the southern sky and energy arguments in the southern sky, the likelihood of individual events, especially tracks, being astrophysical can be assessed. In an ensemble of these events, a calculable fraction must originate from a source making them good candidates for source list correlations and multi-messenger searches. As a result, it is worthwhile to give special attention to these event's directional reconstruction. In this talk I will discuss the most accurate and computationally intensive reconstruction algorithm utilized by IceCube and recent improvements to the utilization of the algorithm which can enhance both it's impact on future source correlation and multi-messenger searches.

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