

# A Combined Fit of the Diffuse Neutrino Spectrum using IceCube Muon Tracks and Cascades

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- Diffuse astrophysical neutrino flux found in multiple complementary detection channels
- Combination of two of these channels into a single likelihood analysis:
  - through-going muon tracks and cascades
- Combination relies on a consistent treatment of detector systematic uncertainties:
  - New method of using the novel SnowStorm simulation technique for modeling detector systematic uncertainties
- Sensitivity estimates for a single power-law fit of the diffuse astrophysical neutrino energy Spectrum
- Outlook: Going beyond the single power-law astrophysical neutrino flux, adding additional event selections (e.g. HESE)