## **Cosmic Ray Anisotropy Workshop CRA2019**



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## Full-Sky Cosmic-Ray Anisotropy with HAWC and IceCube

Monday, 7 October 2019 12:20 (40 minutes)

We present the joint analysis of the arrival direction distribution of Galactic cosmic rays by the High-Altitude Water Cherenkov and IceCube Neutrino observatories at the same median primary particle energy of 10 TeV. The combined sky map and angular power spectrum largely eliminate biases that result from partial sky coverage. The trajectories and observed distribution of particles are distorted by magnetic structures of scales comparable to their gyro-radii such as the heliosphere and the local interstellar magnetic field. We infer the direction of the interstellar magnetic field from the boundary between large scale excess and deficit regions. Using the field direction, we then estimate the 'vertical' dipole component of the large scale anisotropy which is generally not observable by ground-based detectors.

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