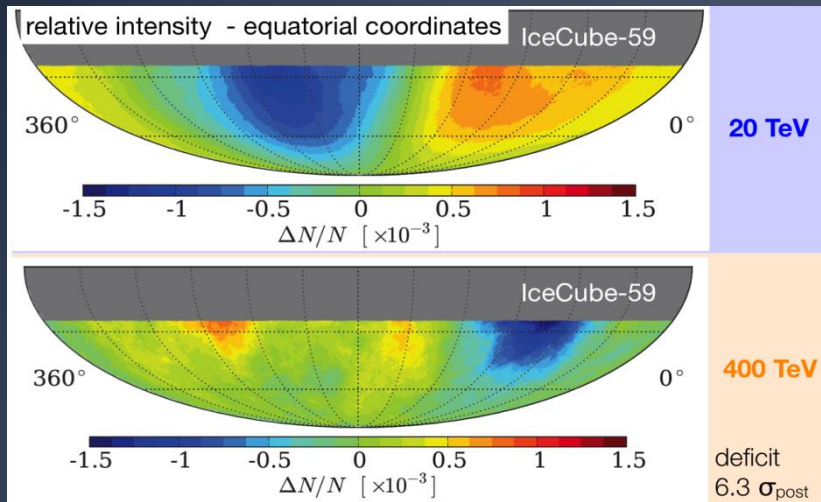


A Heliospheric Kaleidoscope Image of TeV Cosmic Ray Sky



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4:00 pm – 5:00 pm



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Our Galaxy produces high-energy cosmic ray particles up to 10^{15} electron volts (eV) or possibly higher. The sources of cosmic rays are the shock wave of young supernova remnants. However, we cannot see these sources directly because the charged particles will be deflected by the Galactic magnetic field. If we are lucky enough to have a nearby (within 200 pc) supernova explosion in the last 100,000 years, we might see a fussy enhancement of cosmic rays from the supernova. Unfortunately, at 10^{13} eV (or 10 TeV) energy, the gyroradius of protons is 72 AU in a magnetic field of 3 G, which indicates a significant influence on the TeV cosmic ray image by both the Galactic and heliospheric magnetic fields. Recent measurements from several large-scale cosmic ray telescope arrays show a clear anisotropy of TeV cosmic rays, but the pictures are very confusing. It is likely that the TeV cosmic ray images of the sky are distorted by the heliosphere. In this seminar, you will hear how we can use the anisotropy information to deduce the cosmic ray sources and the heliosphere structure.