

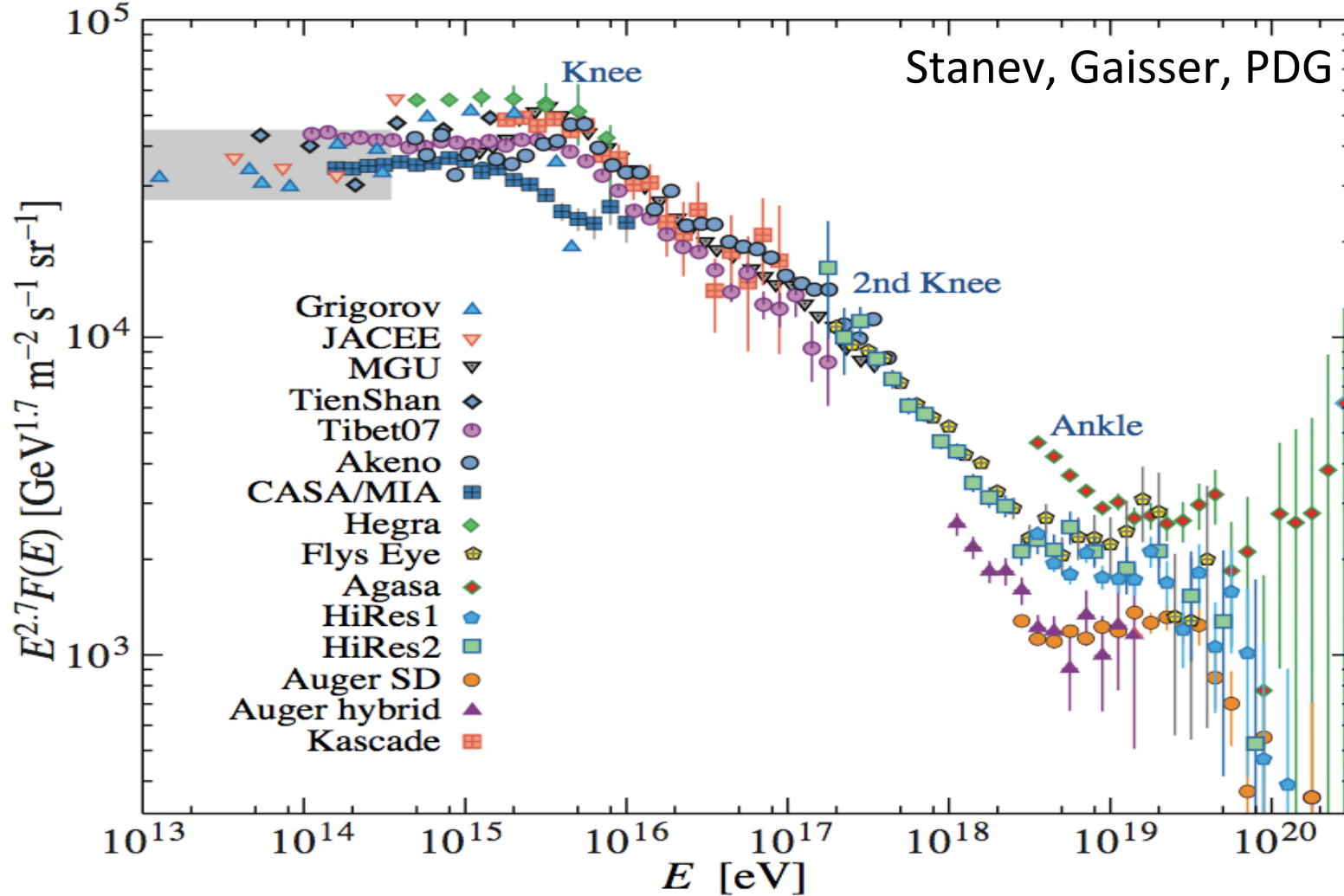


# Cosmic Ray Anisotropy in 3 slides

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# Cosmic Rays



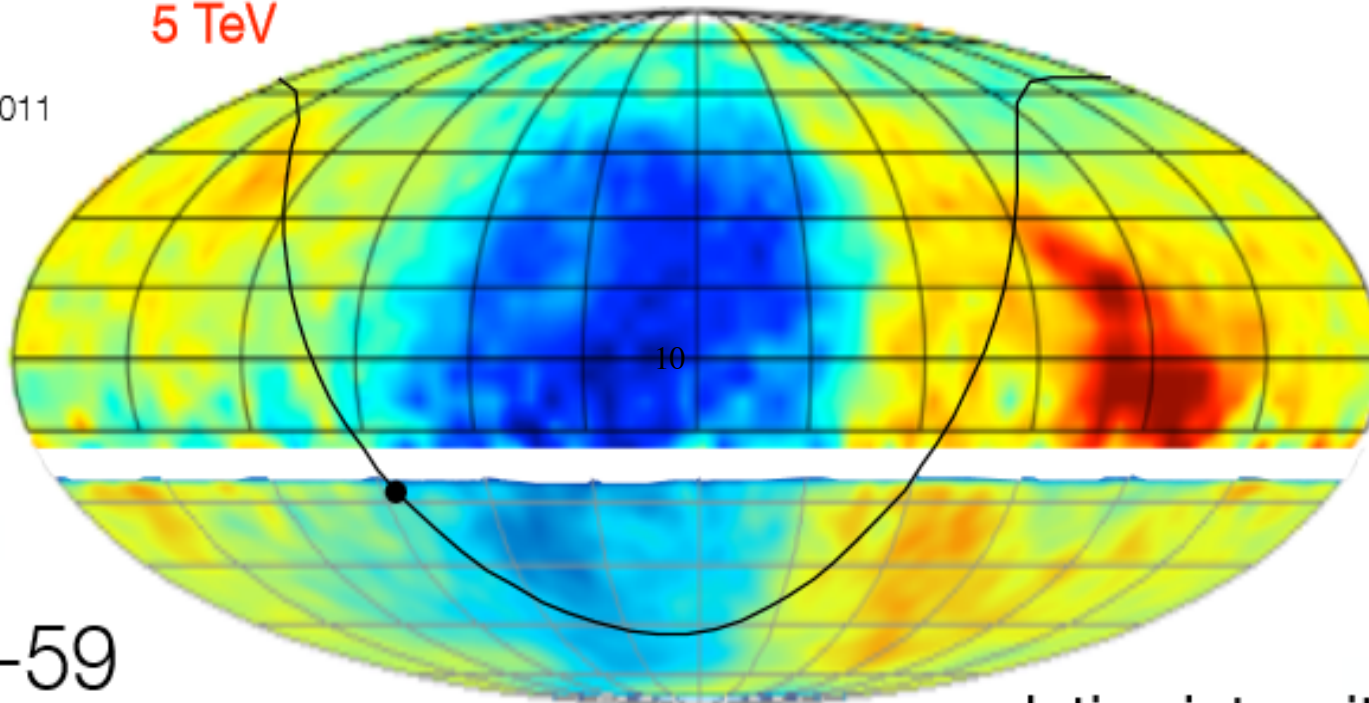
- CRs below the knee believed to be galactic
- Galactic CRs believed to be accelerated in SNRs
- Expected to be isotropic due to scrambling in galactic magnetic field...

# But they're not

Tibet-III

5 TeV

Amenomori et al., ICRC 2011



IceCube-59

20 TeV

Abbasi et al., ApJ, **746**, 33, 2012

relative intensity

Dipole anisotropy - amplitude  $\sim 10^{-3}$

# Science with the background?!

- CR Anisotropy with Fermi
  - Different Energy band
  - First full-sky measurement
- Motivation?
  - Mysteries are fun!
  - Origin of cosmic rays
  - Likely tied to local interstellar magnetic fields
    - Dipole – heliosphere
    - Smaller scale – turbulent interstellar magnetic fields
  - Could be due to nearby sources
    - Proximate source might explain knee in CR spectrum

