

Is the Universe Isotropic? – Maybe!!

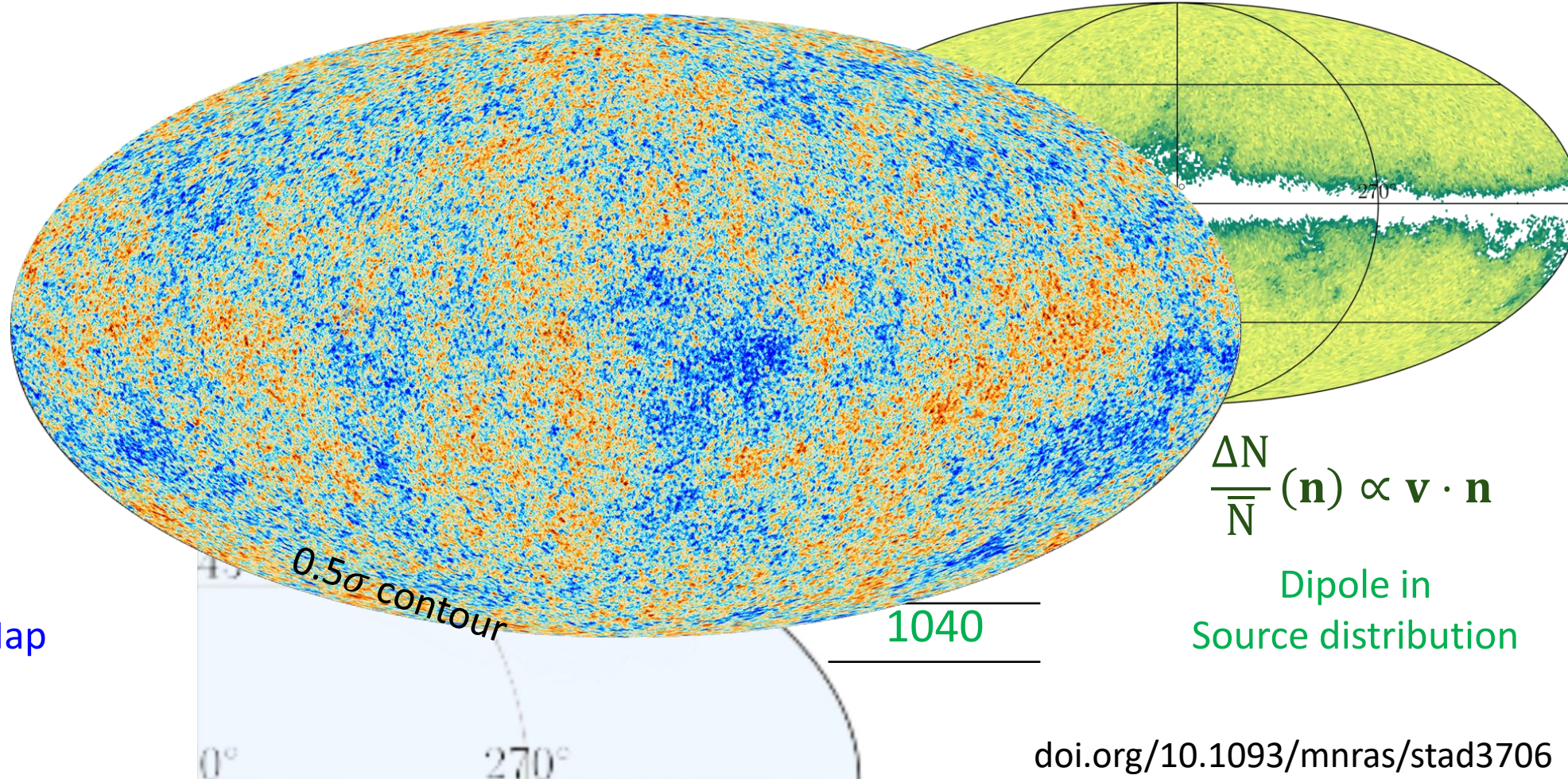
Vasudev Mittal
University of Sydney

Kinematic dipole [CMB: Planck]

Matter dipole [Quiaia quasars: Gaia]

$$\frac{\Delta T}{\bar{T}}(\mathbf{n}) \propto \mathbf{v} \cdot \mathbf{n}$$

Dipole in
Temperature Map



$$\frac{\Delta N}{\bar{N}}(\mathbf{n}) \propto \mathbf{v} \cdot \mathbf{n}$$

Dipole in
Source distribution