HOW SOLENOIDAL IS SUPERNOVA-DRIVEN TURBULENCE IN THE ISM?

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- SN-driven turbulence balances pressure and gravity and may regulate star formation
- Numerical simulations: cubical box of ISM with randomly located SN explosions
- Decomposition of the resulting turbulence into its compressible and solenoidal parts

We confirm with a different method this surprising result of Balsara et al. (2004):

Even though this turbulence is driven by compressible motions (SN explosions), the resulting kinetic energy is concentrated on solenoidal rather than compressible motions.