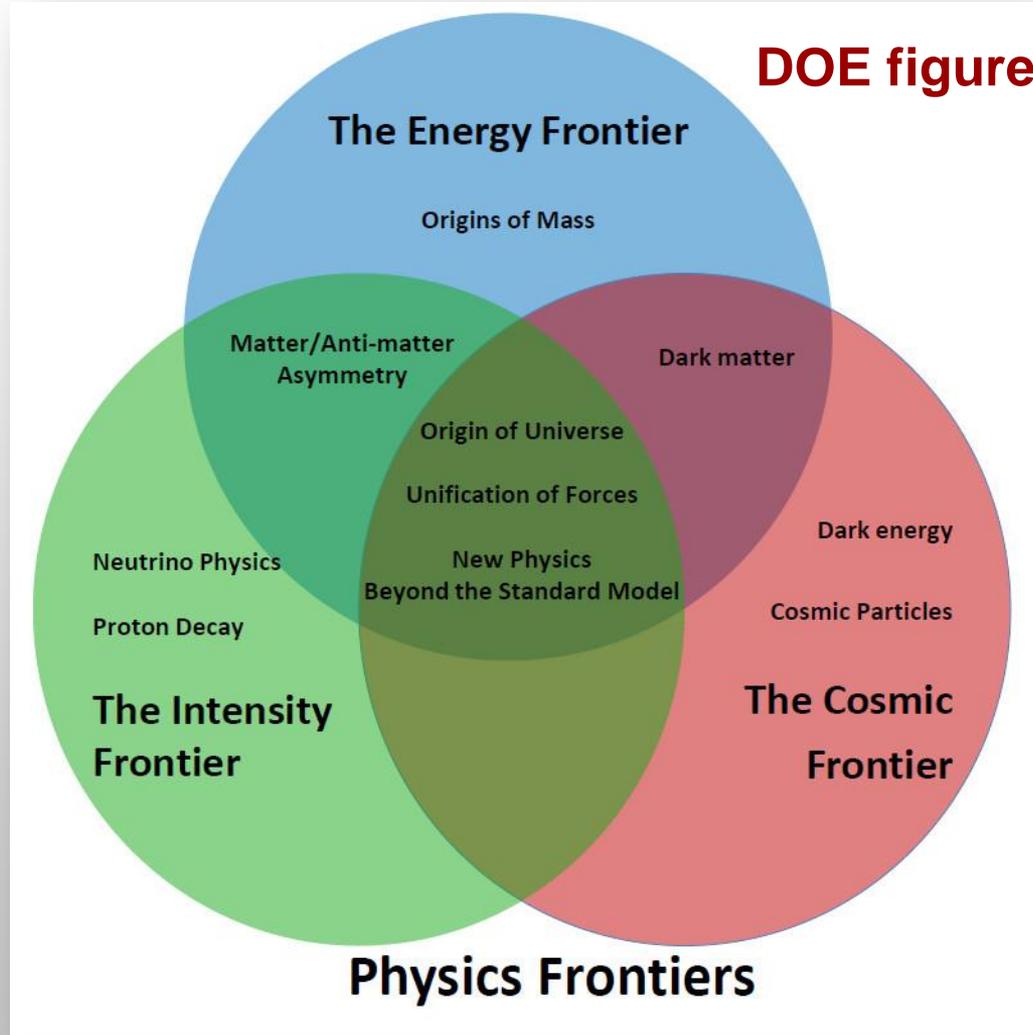


# Cosmology Data Group ?

**Should we seek funding for a quasi-independent CDG sharing some infrastructure and basic principles but with independent staff?**

PDG currently covers the **energy frontier** and the **intensity frontier**.



**Cosmological data volume and variety is increasing rapidly, often with direct impact on HEP questions.**

**The nature of inflation and the quantum vacuum at  $\sim 10^{16}$  GeV, the nature of dark energy and the quantum vacuum at  $10^{-3}$  eV, the mass of neutrinos, new scalar fields, and the fundamentals of gravity and dimensions are informed through cosmological efforts.**

**Data from BOSS, Dark Energy Survey, Planck and ground-based CMB experiments vastly overwhelms previous maps of the universe.**

**Need to handle this data, condense it, and interpret it to make contact with the key physics questions of "the nature of matter, energy, space, and time".**

**Three cosmologists' thoughts on possible coverage.**

- **Eric Linder (LBNL)**
- **Keith Olive (Minnesota)**
- **Subir Sarkar (Oxford) -- present at this meeting**

## Eric Linder:

- \* **Compiling cosmological observation results into an "end-user" table (or matrix of tables) of cosmological parameters. Further useful information could be provided in the form of a triangle of plots of the 2D confidence contours for each pair of major parameters.**
- \* **Review article on cosmological constraints on sum of neutrino masses.**
- \* **Review article on cosmological distance measurements, including a table of distance measurements to various redshifts, from the combination of Type Ia supernovae and baryon acoustic oscillations.**
- \* **Review article on cosmological growth measurements, including a table of growth measurements to various redshifts, from redshift space distortion measurements by spectroscopic cosmological surveys.**
- \* **Expanded coverage of testing non-Gaussianity through both the CMB and large scale structure, and the implications for inflation models.**

## Keith Olive:

I think data sections for astrophysics and cosmology are good. I always have.

The new sections are new work in that they should go far beyond the limits on particle properties from astrophysics that we now include.

Do we want data sections on determinations of cosmological parameters?  
Do we want sections on measurements of the astrophysical quantities that go into the determinations of cosmological parameters.

Overall, I think it can be useful to have data sections on relevant astrophysical measurements. There would have to be considerable brainstorming to decide just what measurements would be included and in what format etc.

Its not as clear as in particle physics as you need to extract a physical quantity of interest.

In any case, my overall sentiment is positive.

**No decision now.**

**Just a subject for discussion.**