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Observing Dark Energy Decay

Dr. Ue-Li Pen

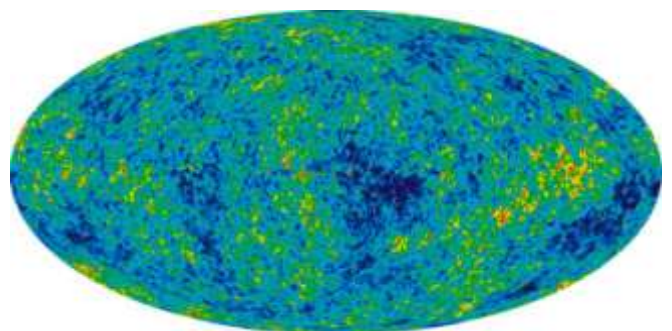


Canadian Institute for Theoretical Astrophysics

Ue-Li Pen is professor and associate director of the Canadian Institute for Theoretical Astrophysics in Toronto, Canada. Born and raised in Germany, Dr. Pen attended high school in Guelph, Ontario, and then completed a year at the University of Waterloo before transferring to the National Taiwan University where he received a B.Sc. in Mathematics in 1989. He completed his M.Sc. in Electrophysics at the National Chiao-Tung University, Taiwan in 1991, and his Ph.D. in Astrophysical Sciences at Princeton University in 1995. In his final year at Princeton, he was awarded the prestigious Porter Ogden Jacobus Fellowship. Before joining CITA, he was a Harvard University Junior Fellow (1995-98). His research interests are theoretical cosmology: cosmological reionization, structure formation, magneto-fluid dynamic simulations, gravitational lensing, CMB.

Abstract

We consider the scenario of dark energy which can decay through a first order phase transition. This hidden field could account for the radiation degree of freedom suggested by the CMB. We present solutions for the viscous limit. The decay rate of the field is constrained by published KSZ data. Cross correlation of current and future surveys can further constrain or test the parameter space. The decay model is plausibly in the observable range, and avoids anthropic problems



All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).