Progress on Old and New Themes in cosmology (PONT) 2011



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A large void versus the cosmological constant: still no verdict.

Tuesday 19 April 2011 17:00 (15 minutes)

The evidence for the cosmological constant Lambda relies crucially on the postulate that we do not live in a special place: the cosmological principle. To strengthen the evidence, we must test that postulate and rule out alternatives. In this talk I will show how a very large spherically symmetric void can fit all existing evidence for Lambda simultaneously: the CMB, BAO, SN and H0, while using only Dark Matter and General Relativity but no Lambda. The purpose is to point out the different roles of assumptions and observations in the evidence for Lambda. Finally I will discuss the tests that should be performed in the future to rule out such a scenario, putting Lambda on a firmer basis.

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