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ARNOLD SOMMERFELD
CENTER FOR THEORETICAL PHYSICS



Sommerfeld Theory Colloquium

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An overview on dark energy

The XXth century has left us with two very successful theories of the physical world - the quantum theory and general relativity - which are difficult to reconcile. A key parameter from this point of view is the so-called vacuum energy, or energy of the fundamental state of the Universe, which induces a cosmological term in Einstein's equations.

Recent progress in cosmological observations has allowed us to identify a new form of energy -the dark energy- which tends to dominate at present the energy budget of the Universe. Is this the vacuum energy? And if it is, do we understand its order of magnitude? Or is it some new form of energy and what is its dynamics? Or is Einstein's theory to be modified to incorporate these observations? Here are some of the questions that I will try to make more precise, from the point of view of theoretical models as well as future observations.

Wednesday, 21st November 07, 11:15 h, Room 348 / 349, Theresienstr. 37 / III