复旦大学物理系物质科学报告

Physics Department Colloquium

Dark Matter and Expanding Universe

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Abstract: We discuss, in a rather simplified and qualitative way, the evidences for expansion of Universe and the role played by the hypothetical Dark Matter. The best starting point to understand the need for expansion of the Universe is the Olbers' paradox (17-18th century). In accordance with General Relativity A. Einstein, the Universe can be expanding with acceleration because of a term called cosmological constant. Nowadays we have very convincing evidences that the expansion of the Universe started from a state with huge matter density and very high temperatures. At these energies mutual transformations of elementary particles are possible, which now can be observed only in the accelerators such as LHC. Then the existence of some unknown Physics beyond the Standard Model of elementary Particles naturally leads to the possible existence of Dark Matter. Indeed, the knowledge of its origin will be possible only together with detailed understanding of the High Energy Physics.

Time： 2:00 pm, Tuesday, 2014.3.11

Location： Physics Building, Room 221B

(Cookies and coffee are served from 1:30 pm)