

Catalytic Creation of Bubble Universe Induced by Quintessence in Five Dimensions

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We investigate the bubble nucleation in five dimensional spacetime catalyzed by quintessence. We especially focus on decay of a metastable Minkowski vacuum to an anti-de Sitter vacuum and study dynamics of the bubble on which four dimensional expanding universe is realized. We also discuss the trans-Planckian censorship conjecture and impose a constraint on the parameter space of the catalysis. As an application of this model, we propose an inflation mechanism and an origin of the dark energy in the context of quintessence in five dimensions.

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Session Classification: Short talks