SEMPARIS – Séminaires en région parisienne

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Seminar of the theory group of APC

Mardi 17 Octobre 2017, 14 :00
APC, 483 A - Malevitch
Domaines : hep-th

Titre : *Caustic free completion of k-essence*

Orateur : **Eugeny Babichev (LTP Orsay)**

Résumé : *Both k-essence and the pressureless perfect fluid develop caustic singularities at finite time. We explore the connection between the two and show that they belong to the same class of models, which admits the caustic free completion by means of the canonical complex scalar field. Specifically, the free massive/self- interacting complex scalar reproduces dynamics of pressureless perfect fluid/shift-symmetric k-essence under certain initial conditions in the limit of large mass/sharp self-interacting potential. We elucidate a mechanism of resolving caustic singularities in the complete picture.*