Théorie, Univers et Gravitation - TUG



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Mathias Pierre (DESY): Reheating after fragmentation

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In simple single field models of inflation, an inflaton condensate undergoes an oscillatory phase once inflationary expansion ends. In the presence of self-interactions, the inflaton field is driven into the non-linear regime by the resonant growth of its fluctuations. The once spatially homogeneous coherent inflaton is converted into a collection of inflaton particles with non-vanishing momentum. In this talk I discuss a formalism to quantify the effect of fragmentation on particle production rates and discuss consequences on the ability to successfully achieve the transition into a radiation-dominated universe.

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