Department of Theoretical Physics



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Bouncing Universes

Monday, 21 November 2016, 10:00 Room A304

Bouncing scenarios correspond to situations wherein the universe initially goes through a period of contraction until the scale factor reaches a certain minimum value before transiting to the expanding phase. They offer an alternative to inflation to overcome the horizon problem, as they permit well motivated initial conditions to be imposed on the perturbations at early times during the contracting phase. In this talk, I discuss two disparate phenomena in bouncing universes, viz. the generation of magnetic fields and tensor non-Gaussianities. I shall show that, in bouncing models, while scale invariant magnetic fields can be generated as in the inflationary scenario, the tensor non-Gaussianities prove to be much smaller than the corresponding values in inflation. I conclude by highlighting the issues associated with bouncing models.



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