

Can loop quantum cosmology describe an unified and consistent scenario since bounce until the end of inflation?

Tuesday 11 September 2018 14:00 (15 minutes)

The inflationary model was introduced by Guth in the 80's as a way of solving the so-called three cosmological problems: flatness of the space-time, the problem of the horizon, and the question of the magnetic monopoles. Since it was proposed, inflation has become much more than a cosmological model. The inflationary period may perhaps give us some clues about the transition from a continuum space-time (as is the universe at the end of the inflationary period) to a space-time still quantized at the beginning of the inflationary period. In this work, we try to establish a possible transition scenario between loop quantum gravity and inflation (as described by a Higgs model). The main characteristics of this possible connection will be discussed in the present work.

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