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# Invited talk - Quantum origin of cosmological perturbations? - Krishna Mohan Parattu, IIT Mandi

*Friday 22 August 2025 14:30 (1 hour)*

The standard paradigm for the origin of the large scale structure we see in the universe as well as the large scale fluctuations we see, for example, in the cosmic microwave background (CMB) posits that they originated from quantum fluctuations in the quantum field that the drove the epoch of inflationary expansion of the universe. From the 1990s onward, there were efforts to show how the classical structure emerges from the quantum fluctuations. But over the last decade or so, there has been considerable interest in finding some smoking gun signal of the proposed quantum origin. I shall give an overview of these efforts, describe some recent developments and conclude with some comments on open questions.

Session Chair : Kartik Prabhu