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A New Origin of the Big Bang Universe and Its Gravitational Wave Signature

I will talk about a new origin of the big bang universe in which the inflaton field inject all its energy into a kination dominated dark sector, and at that time the standard model sector was in a meta stable vacuum state. Then, the Hubble expansion rate drops due to the dillution of the energy in the dark sector, and when the Hubble expansion rate is small enough the phase transition in the standard model sector will complete. The thermalization of the high energy bubble shells heats the standard model sector up, and it goes into the phase of the standard big bang. I will show that the strength of gavitational wave produced in this scenario can almost saturate the N_eff bound, and with a double log structure in the IR part.

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