

## Gravothermalizing into primordial black holes, boson stars, and cannibal stars

*Thursday 24 April 2025 14:52 (22 minutes)*

I will present a novel mechanism for producing primordial black holes (and beyond) in the post-inflation universe. The mechanism invokes an epoch of early matter domination, and self-interactions of the dominating particles, which trigger a gravothermal collapse of halos into black holes. The gravothermal collapse also gives rise to other exotic compact objects including boson stars, as well as “cannibal stars” which are supported by heat produced in number-changing reactions.

**Author:** KOBAYASHI, Takeshi

**Presenter:** KOBAYASHI, Takeshi

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