

New Mechanism for heavy dark matter production from cosmic phase transition and beyond

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Motivated by the current status of dark matter search, we discuss new production mechanism for heavy dark matter based on non-thermal processes, such as cosmic phase transition, Hawking radiation, and superradiance process. Furthermore, we explore potential signatures of this mechanism in various experiments including the gravitational wave signals. This study provides a viable pathway to understanding the origin of heavy dark matter and its cosmological implications.

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