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## **Primordial black holes in Brans-Dicke gravity**

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We consider the formation of primordial black holes in in Brans-Dicke theory of gravity. The threshold of black hole formation have some corrections in comparison with General relativity. These corrections depend on the scalar field of the Brans–Dicke theory, and the corrections influence the probability of primordial black holes formation. This effect can lead to the formation of black hole clusters in the early universe which evolve in a certain way due to dynamical processes. The rate of black hole merges in the clusters can compete the merge of black holes in pairs. The applications for the LIGO/Virgo detection rate are discussed.

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