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Possibility of weakening the constraint on abundance of primordial black holes from Eridanus II

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Stellar cluster, observed in dwarf galaxy Eridanus II, provides strong constraint on abundance of massive compact halo objects (MACHOs) of mass $10M_{\odot} \leq M \leq 10^6 M_{\odot}$, so they cannot be the main component of dark matter. MACHO dark matter should dynamically heat the cluster, driving it to larger sizes and higher velocity dispersions until it dissolves into galaxy. Primordial black holes (PBH) are subject to this constraint. PBHs are now of special interest in connection to LIGO/Virgo results, early quasars observation, but historically first reason of very great interest to PBH is accounted for by dark matter (DM) problem. There have been plenty of works considering PBH as DM candidate, but, unfortunately, most of them just only put constraints overlapping each other on all relevant mass range. We consider cluster of PBHs of cluster mass within interval constrained from Eridanus.

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