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Kazunori Kohri: Formations and evolutions of PBHs in the matter-dominated Universe

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Primordial Black Holes (PBHs) can be produced even in the early matter dominated Universe due to collapses of regions which have large curvature perturbation produced by inflation.

I will review the current status of formations and evolutions of PBHs in the early matter dominated Universe. If time allows, I will also mention cosmological and astrophysical constraints on PBHs with introducing my own bounds on PBHs in terms of polarization of Cosmic Microwave Background photons due to cosmological accretions onto PBHs (arXiv:1707.04206 [astro-ph.CO]), cosmological/gamma-ray/cosmic-rays bounds on evaporating PBHs (arXiv:0912.5297 [astro-ph.CO]), Higgs phenomenology (arXiv:1708.02138 [hep-ph]), stochastic GWs (arXiv:1903.05924 [astro-ph.CO], arXiv:1903.05924 [astro-ph.CO]), dark matter (arXiv:1802.06785 [astro-ph.CO]), ultra-compact mini halo formations (arXiv:1712.08820 [astro-ph.CO] and arXiv:1905.04477 [astro-ph.CO]), clustering (arXiv:1909.04053 [astro-ph.CO]) and so on.