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Formation and evolution of the first Supermassive Black Hole Seeds

In the last decade, many observations of bright quasars at $z > 5$, have revealed the existence of Supermassive Black Holes (SMBHs), giants of billion solar masses shining close to their Eddington limit. The mechanism of their
formation at these early epochs represents currently an open problem in galaxy evolution.
Several scenarios have been proposed to overcome this problem, such as the Super-Eddington accretion onto stellar Black Hole seeds, with typical masses of $100 M_{\odot}$, or the existence of more massive seeds, such as the Direct Collapse Black Holes with masses picked around $10^5 M_{\odot}$. Intermediate mass black holes forming from the runaway collapse into dense stellar cluster, with mass of $\sim 10^3 M_{\odot}$

$, actuallyrepresentanotherpotentialsolution.$
$Followingtheearlygrowthandcoalescenceof BH seedsincosmologicalsimulations, Iwilldiscussthe formationsitesof$
$relativecontributiontothe formationofthecentralBlackHolemass.Theresultingtheoreticalpredictionsconstrainthe$

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