

P-24 Impact of CR / X-ray ionization on the SMBH formation

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2nd generation stars formation from metal-free gas
irradiated with extragalactic radiations

- Far UV radiation ($J_{\text{UV}} \geq J_{\text{crit}}$)

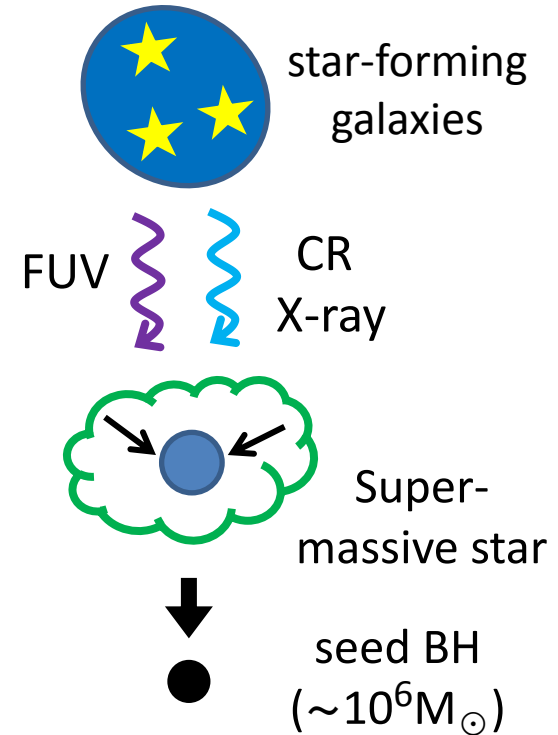
— **Supermassive stars** ($\sim 10^6 M_{\odot}$) formation !

➡ **the seed BHs of SMBHs ($\sim 10^9 M_{\odot}$) @z>6**

- ionization effects such as CR and X-ray

— the enhancement of the critical flux J_{crit}

➡ extremely strong FUV flux is not realized



We discuss the nature of radiation sources needed for SMBH formation, considering CR and X-ray ionization feedback