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## Probing dark matter and primordial black holes with CMB and 21cm observations

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Radiation produced by decaying/annihilating dark matter (DM) and evaporating primordial black holes (PBH) can ionize and heat up intergalactic medium (IGM) before reionization. Such effects can be efficiently probed using observations of cosmic microwave background (CMB) and 21cm signal of neutral hydrogen. In this talk I will show that CMB data from Planck and 21cm data from EDGES can set some of the most stringent and robust bounds on decay/annihilation rates of DM and abundance of PBH, future CMB missions can improve current Planck limits by up to two orders of magnitudes. This talk is partially based on our work in ArXiv 2002.03380 and 2011.12244.

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