

UCLA Department of Physics & Astronomy

COLLOQUIUM

Thursday, April 10th at 4 p.m.

1-434 PAB

Black holes from the Big Bang

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The first black holes in the universe could have been produced before the stars and galaxies were born. The dense plasma in the early universe created favorable conditions for the formation of primordial black holes (PBH), which could account for all or part of dark matter and could provide seeds for the first supermassive black holes. The recent astronomical observations provide several intriguing hints at the existence of PBHs. I will discuss recent advances in understanding of PBH formation, astrophysical searches for dark matter in the form of PBHs, as well as the effects of PBHs on r-process nucleosynthesis and other astrophysical phenomena. Finally, I will discuss how the surprising discovery of supermassive black holes at very high redshifts by JWST may point to the effects of PBH or other forms of dark matter on the formation of first supermassive black holes.

Host: Seth Putterman

Refreshments at 3:30 p.m. on the PAB Patio. Undergraduates Welcome!