



PHYSICS AND ASTRONOMY COLLOQUIUM

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“Disentangling Nature from Nurture: Tracing The Origin of the First Black Holes”

Abstract

Black holes appear to be ubiquitous in the universe – most galaxies, if not all, appear to host a supermassive one in their nucleus. The origin of the first, seed black holes, however, remains an open question. Observationally detected bright quasars powered by accreting black holes are found to be in place when the universe was a fraction of its current age and accounting for their existence necessitates rapid growth from a new class of initial seeds. I will present work on an alternate channel to form massive black hole seeds in the early universe – direct collapse black holes – that form in pristine pre-galactic gas disks; present the mounting evidence from multi-wavelength data that supports this picture as well as the prospects for testing this seeding model and disentangling the confounding effects of accretion physics with data from future space observatories like the James Webb Space Telescope, WFIRST, eROSITA, ATHENA & the LISA mission.

Wednesday, March 13, 2019
3:30 p.m.
Elliott Building Room 167