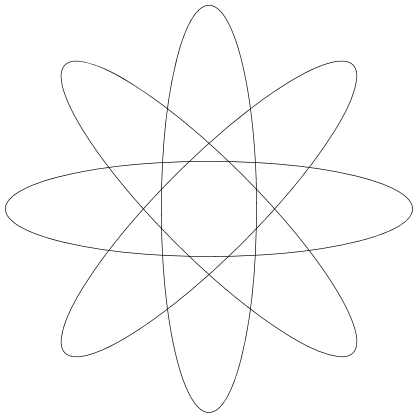
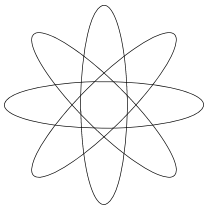


Dr. Evan Scannapieco

(Kavli Institute for Theoretical Physics, UC Santa Barbara)



"Quasar Feedback in Structure Formation"

Abstract:

For the past 10 billion years, the typical mass of star-forming galaxies has been decreasing, seemingly in direct conflict with the prevailing model of cosmological structure formation. Using analytic arguments and reviewing recent observations, I will demonstrate that the solution to this mystery is likely to lie in the formation of supermassive black holes, which exert strong feedback on their environments as they pass through an active phase, known as a quasar. Next, I will present the results of one of the largest cosmological smooth particle hydrodynamic simulations every carried out, which includes this feedback process and can be used to make detailed observational comparisons. In particular, our modeling places us in a unique position to interpret joint measurements of the distributions of quasars, galaxies, and small-scale distortions in the microwave background. Finally, I will summarize other aspects of my ongoing research, focusing on studies that constrain the properties of the

Wed., February 28
4:00 P.M.
304 Robeson Hall