

Meeting: 1007, Santa Barbara, California, SS 6A, Special Session on Geometric Methods in Three Dimensions

1007-57-95 **Nathan M Dunfield*** (dunfield@caltech.edu), Mathematics 253-37, Caltech, Pasadena, CA 91125, and **Dylan P. Thurston**, Dept of Math, Harvard University, One Oxford St, Cambridge, MA 02138. *Does a random 3-manifold fiber over the circle?*

I'll discuss the question of when a tunnel number one 3-manifold fibers over the circle — the motivation is here is to try to get some handle on the Virtual Fibration Conjecture for hyperbolic 3-manifolds. In particular, I will discuss a criterion of Brown which answers this question from a presentation of the fundamental group. I will describe how techniques of Agol, Hass, and W. Thurston can be adapted to calculate this very efficiently by using that the relator comes from an embedded curve on the boundary of a genus 2 handlebody. I will then describe some experiments which strongly suggest the answer to the question: Does a random tunnel-number one 3-manifold fiber over the circle? I will end by explaining how to prove that the the observed answer is indeed correct in one of the two cases. (Received February 07, 2005)