Undergraduate Math Club
Fall 2005
2nd floor Nesbitt Common Room
Dec. 8, 4:10-5:00pm
(free pizza and pop, as always)

Gravitation and Cosmology

Professor J. Smoller

Abstract

Einstein's theory of General Relativity is really a theory of gravity, and is based on geometry. It generalizes the Newtonian theory which stood for about 250 years, and resolved a problem which bothered astronomers since the 1850's. It also made bold predictions (for example, the bending of light near massive bodies), which were subsequently experimentally verified. It also provided a framework for a mathematical theory of Cosmology, gave a theoretical justification for our expanding Universe, and predicted the existence of Black Holes. I will explain how all this comes about.