

Abstract Submitted
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Evolution of Cosmology CHARLES H. ROSS, Academy at UAH — Aristotle thought that the universe was finite and Earth centered. Newton thought that it was infinite. Einstein guessed that the universe was finite, spherical, static, warped, and closed. Hubble's 1930 discovery of the expanding universe, Penzias and Wilson's 1968 discovery of the isotropic CMB, and measurements on light element abundances, however, established a big bang origin. Vera Rubin's 1980 dark matter discovery significantly impacted contending theories. However, 1998 is the year when sufficiently accurate supernova and primordial deuterium data was available to truly explore the universe. CMB anisotropy measurements further extended our cosmological database in 2003. On the theoretical side, Friedmann's 1922 perturbation solution of Einstein's general relativity equations for a static universe has shaped the thought and direction in cosmology for the past 80 years. It describes 3D space as a dynamic function of time. However, 80 years of trying to fit Friedmann's solution to observational data has been a bumpy road - resulting in such counter-intuitive, but necessary, features as rapid inflation, precision tuning, esoteric dark matter, and an accelerating input of esoteric dark energy.

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