SLAC-PUB-8779
March 2001

Observational Evidence for Two Cosmological Predictions Made by Bit-String Physics

H. Pierre Noyes
Stanford Linear Accelerator Center,
Stanford University, Stanford, CA 94309

Abstract

A decade ago bit-string physics predicted that the baryon/photon ratio at the time of nucleogenesis $\eta = 1/256^4$ and that the dark matter/baryonic matter ratio $\Omega_{DM}/\Omega_B = 12.7$. Accepting that the normalized Hubble constant is constrained observationally to lie in the range $0.6 < h_0 < 0.8$, this translates into a prediction that $0.325 > \Omega_M > 0.183$. This and a prediction by E.D.Jones, using a model-independent argument and ideas with which bit-string physics is not inconsistent, that the cosmological constant $\Omega_\Lambda = 0.6 \pm 0.1$ are in reasonable agreement with recent cosmological observations, including the BOOMERANG data.

Submitted to *New Astronomy*

Work supported by Department of Energy contract DE–AC03–76SF00515