

Abstract Submitted
for the TSF17 Meeting of
The American Physical Society

Recent observational constraints with figures of merit on the parameters of a variety of cosmological models, including some growth index parameterizations and comparisons using AIC and BIC methods ANDREW CHANG, DR. JACOB MOLDENHAUER, CRAIG NAKUTIS, Univ of Dallas — We make a comparison of eight cosmological models according to how well they fit current observational data. The data we used in this work are: baryonic acoustic oscillations, with a total of six data points including the latest BAODR14 data point, normalized growth data, strong lensing, the joint light curve analysis sample of type Ia supernova, and the observational Hubble parameter cosmic chronometers data. We use the growth index parameter, γ approximation, for the normalized growth function with three different parameterizations: exponential, constant, and interpolated. Since the models have different numbers of parameters, we utilize the Akaike and Bayesian information criteria to assess the goodness of fit of the models. We also compare the Figure of Merit for our parameter pairs. The Galileon Cosmology model and the flat Dvali Gabadadze Porrati model are excluded by current observations. The flat Λ cold dark matter model has the best goodness of fit. The other cosmological models, while not as good as Λ cold dark matter, are not entirely ruled out.

Andrew Chang
Univ of Dallas

Date submitted: 21 Sep 2017

Electronic form version 1.4