

Abstract Submitted  
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**The Analysis and Observational Fitting of Modified Gravity Models using CosmoEJS**<sup>1</sup> BLAKE PALMER, DR. JACOB MOLDENHAUER, ALVARO HU, University of Dallas — The purpose of this research is to describe and attempt to understand the nature of modern cosmology through the use of modified gravity models. We present these models as alternatives to the standard Lambda CDM model. The origin, development, and growth of the universe must be accounted for in regards to a chosen theoretical cosmological model, and following recent results show the ways in which different models attempt to handle this. This project deals primarily with five different modified gravity models, those being the Einstein-DeSitter, Dvali-Gabadadze-Porrati, Modified Polytropic Cardassian, Interacting Dark Energy, and Generalized Chaplygin Gas models. These theoretical models are compared to observational data from cosmological distances on expansion history and structure growth. Also, a background and an analysis of each model is performed using new simulations built from CosmoEJS.

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None

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