

Abstract Submitted
for the TSF17 Meeting of
The American Physical Society

Seeking insights on gravity theory and cosmic acceleration from consistency tests between cosmological data sets.¹ MUSTAPHA ISHAK, WEIKANG LIN, The University of Texas at Dallas — Testing general relativity at cosmological scales and probing the cause of cosmic acceleration are among the important objectives targeted by incoming and future astronomical surveys and experiments. I present our recent results on consistency tests that can provide insights about the underlying gravity theory and cosmic acceleration using cosmological data sets. We use new statistical measures that can detect discordances when present. We also use an algorithmic procedure that is able to identify in some cases whether an inconsistency is due to problems related to systematic effects in the data or to the underlying model. Some recent published tensions between data sets are also examined using our formalism, e.g. the Hubble constant, Planck and Large-Scale-Structure.

¹MI acknowledges that this material is based upon work supported in part by the NSF under grant AST-1517768 and an award from the John Templeton Foundation

Mustapha Ishak
The University of Texas at Dallas

Date submitted: 28 Sep 2017

Electronic form version 1.4