



Hindawi

Advances in Astronomy

Special Issue on

**Accelerated Universe: 25 Years of Open Debate**

# CALL FOR PAPERS

One of the most important issues of modern cosmology is to understand the fact that the SNIa distance measurements support the evidence of a superaccelerating universe, which is consistent with observations of large scale structures. Although  $\Lambda$ CDM model has excellent fit with the luminosity-distance versus redshift curve, it is questionable for specific reasons. A host of dark-energy models, namely, Quintessence, K-essence, H-essence, Holography, Van-der-Vaals gas, Chaplygin gas, and so forth, which tacitly assumes that GTR is the correct theory of gravity, were confronted with such puzzle. The observed phenomena may also be explained by invoking creation of dark matter from gravitational field, in a nearly flat universe, and do not require dark energy at all. On the other hand, it is well known that additional degrees of freedom in the gravitational sector can instead mimic LCDM cosmology and standard GTR. Therefore, attempts have also been made to modify standard Einstein's equations. Such modification includes Gauss-Bonnet dilatonic coupling, an action containing a power (or general function) of Ricci scalar, Brane-World models, and even more complicated theories. The main aim of this volume is therefore to collect contributions whose main focus is a discussion, from theoretical and observational point of view, among various alternatives.

We elicit overviews and original papers in this open debate.

Potential topics include, but are not limited to:

- ▶ Different dark-energy models: the vices and virtues
- ▶ Creation of dark matter at the expense of gravitational field: the vices and virtues
- ▶ Different modified theories of gravity: the vices and virtues

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/aa/auod/>.

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