

Physics 130 General Relativity Seminar

Assignments 13-14 April 21/28, 2011

Readings – Papers by John Moffat

Week 13: The Theory and Early Work on Tests

Presentations only this week. Read as many of the papers beyond your own assignment as possible!

1. 1979 - New theory of gravitation EVERYONE
2. 1979 - Static spherically symmetric solution for the field of a charged particle in a theory of gravity _____
3. 1979 - Cosmological solution of Bianchi type I in a new theory of gravitation _____
4. 1987 - Test-particle motion in the nonsymmetric gravitation theory _____
5. 1994 - Field Equations and Conservation Laws in the Nonsymmetric Gravitational Theory _____
6. 1995 - Geodesic and Path Motion in the Nonsymmetric Gravitational Theory _____

Week 14: The Theory versus Dark Matter and Dark Energy

Presentations only this week. Read as many of the papers beyond your own assignment as possible!

1. 2004 - Modified Gravitational Theory as an Alternative to Dark Energy and Dark Matter _____
2. 2005 - Galaxy Rotation Curves Without Non-Baryonic Dark Matter _____
3. 2005 - Cosmic Microwave Background, Accelerating Universe and Inhomogeneous Cosmology _____
4. 2005 - Large Scale Cosmological Inhomogeneities, Inflation And Acceleration Without Dark Energy _____
5. 2005 - Galaxy Cluster Masses Without Non-Baryonic Dark Matter _____

6. 2007 - The Bullet Cluster 1E0657-558 evidence shows Modified Gravity in the absence of Dark Matter
2010 - Can Modified Gravity (MOG) explain the speeding Bullet (Cluster)? _____
7. 2008 - Testing Modified Gravity with Globular Cluster Velocity Dispersions
2008 - Testing modified gravity with motion of satellites around galaxies _____
8. 2009 - Observationally Verifiable Predictions of Modified Gravity
2011 - Modified Gravity Or Dark Matter? _____
9. 1997 - A Self-Organized Critical Universe _____

The Complete Theory - The particle physics structure behind modified gravity - Read about if interested.

1. 1994 - Nonsymmetric Gravitational Theory
2. 2005 - Scalar-Tensor-Vector Gravity Theory
3. 2006 - A modified gravity and its consequences for the solar system, astrophysics and cosmology
4. 2008 - The bending of light and lensing in modified gravity
5. 2008 - Modified Gravity: Cosmology without dark matter or Einsteins cosmological constant
6. 2009 - Modified gravity and the origin of inertia
7. 2009 - Fundamental parameter-free solutions in Modified Gravity
8. 2010 - Lorentz Violation of Quantum Gravity