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I'm a cosmologist, my work focuses on the cosmological constant problem. Hence my main investigation is about IR modification of gravity, brane models, black holes solutions in modified gravity and their stability, formation of caustics and singularity problem.

CURRENT RESEARCH

Topic	Methodology	Application
General Relativity, cosmology, black holes	• Field theory in curved spacetime • Riemannian manifold	Understanding the fundamental laws of the Universe.

UKZN Publications

- *"Neutron stars in Starobinsky model"*
- "Existence and stability of pure-Lovelock static black hole in even dimensions"

Past Researches

- Quasi-dilaton non-linear massive gravity: Investigations of background cosmological dynamics
- Spontaneous symmetry breaking in cosmos: The hybrid symmetron as a dark energy switching device
- DGP black holes on the brane
- Light mass galileons: Cosmological dynamics, mass screening and observational constraints
- Generic f(R) theories and classicality of their scalarons
- FLRW cosmology in Weyl-Integrable Space-Time
- Vainshtein mechanism in Gauss-Bonnet gravity and Galileon aether
- Chameleon dark energy models with characteristic signatures
- Modified gravity a la Galileon: Late time cosmic acceleration and observational constraints
- Galileon gravity and its relevance to late time cosmic acceleration
- Background cosmological dynamics in f(R) gravity and observational constraints
- The dispersion of growth of matter perturbations in f(R) gravity
- Dispersion in the growth of matter perturbations
- Constraining f(R) gravity models with disappearing cosmological constant
- The growth of matter perturbations in f(R) models
- The growth of matter perturbations in some scalar-tensor DE models
- On the growth of linear perturbations
- Scalar-Tensor Dark Energy Models
- Conditions for the cosmological viability of f(R) dark energy models
- Scalar-Tensor Models of Normal and Phantom Dark Energy

Future Interests

Quantum gravity, effective field theory, non-commutative geometry, Hawking paradox

Extra Interests

Sports (football, Jeet Kune Do) , Travels