

## General Relativity and Quantum Cosmology

# Strong gravitational field in $R + \{\mu\}^4/R$ gravity

Kh. Saaidi, A. Vajdi, S. W. Rabiei, Z. Rajabi

*(Submitted on 25 Jan 2010)*

We introduce a new approach for investigating the weak field limit of vacuum field equations in  $f(R)$  gravity and we find the weak field limit of  $f(R) = R + \{\mu\}^4/R$  gravity. Furthermore, we study the strong gravity regime in  $R + \{\mu\}^4/R$  model of  $f(R)$  gravity. We show the existence of strong gravitational field in vacuum for such model. We find out in the limit  $\{\mu\}^4 \rightarrow 0$ , the weak field limit and the strong gravitational field can be regarded as a perturbed Schwarzschild metric.

Subjects: **General Relativity and Quantum Cosmology (gr-qc)**Cite as: [arXiv:1001.4157v1](https://arxiv.org/abs/1001.4157v1) [gr-qc]

## Submission history

From: S. Worya Rabiei [[view email](#)]

[v1] Mon, 25 Jan 2010 15:37:55 GMT (131kb)

*[Which authors of this paper are endorsers?](#)*

## Download:

- [PostScript](#)
- [PDF](#)
- [Other formats](#)

Current browse context:

gr-qc

[< prev](#) | [next >](#)[new](#) | [recent](#) | [1001](#)

## References & Citations

- [SLAC-SPIRES HEP](#)  
([refers to](#) | [cited by](#))
- [CiteBase](#)

## Bookmark (what is this?)

