

General Relativity and Quantum Cosmology

Uniform density static fluid sphere in higher dimensions and its universality

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In Newtonian theory, gravity inside a constant density static sphere is independent of spacetime dimension. Interestingly this general result is also carried over to Einsteinian as well as higher order Lovelock gravity notwithstanding their nonlinear character. We establish the universality of Schwarzschild interior solution describing a uniform density sphere for all $n \geq 4$.

Comments: 4 pages, typos corrected, one reference added

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