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The velocity in static spherical metric of f(R) quadratic langrangian gravity

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Abstract. This paper will consider the behavior of the velocity obtained from the static spherically symmetric metric resulting from the square langragian of f(R) gravity. Metric is given by E. Pachlaner and R. Sexl in their paper [1]. Also It will be shown the expressions for radial and total velocity of cosmos in one and two space dimensions and to discuss their behavior. The metric obtained from the langragian which is different from Einstein's by the square term of the Ricci scalar. The exact equations of fields are too complicated to be solved, it solved in weak field approximation.

[1] E. Pachlaner and R. Sexl: On quadratic langragians in general relativity. Communication mathematics physics 2 (1966), pp. 165-175.

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