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The contribution Hans Adolph Buchdahl f(R) gravity

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Abstract. Hans Adolph Buchdahl was born in Mainz in German in a Jewish family. He was Australian Physicist and he was born 7 July 1919 and died 7 January 2010. He worked on general relativity, thermodynamics and optics. He was the founder of the modified theory of gravity of the f(R) type, where f(R) is general functions of Ricci scalar, unlike Einstain's general theory of relativity f(R)=R. He proposed f(R) gravity first in in his paper 1970 [1]. He set up the field equations of f(R) gravity. Also he is known for developing Buchdahl's theorem which is an relation between the mass and radius in the static, spherically symmetric matter configurations. This paper will present his historical work on the creation of f(R) gravity as the founder of f(R) gravity, and also in one chapter it will be represented Buchdahl's theorem.

[1] H. A. Buchdahl: Non linear langragians and cosmological theory. MNRAS 150 (1970),1(8).

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