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## Quasi-Newtonian and anti-Newtonian universes in $f(R)$ -gravity

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**Abstract content**   
 (Max 300 words)   
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We investigate a class of shear-free and irrotational perfect fluid cosmological models in the context of modified (higher-order) gravitational theories. In particular, we generalize the potential and acceleration terms of the quasi-Newtonian formulation of General Relativity. We also show the existence of “anti-Newtonian” cosmological models based on a consistency analysis of Einstein’s field equations applied to  $f(R)$ -gravity models.

**Apply to be considered for a student award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD)?**

N/A

**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

Yes

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**Session Classification:** Space

**Track Classification:** Track D1 - Astrophysics