

Abstract Submitted
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On the Exact Solution Explaining the Accelerate Expanding Universe According to General Relativity DMITRI RABOUNSKI, Retired — A new method of calculation is applied to the frequency of a photon according to the travelled distance. It consists in solving the scalar geodesic equation (equation of energy) of the photon, and manifests gravitation, non-holonomy, and deformation of space as the intrinsic geometric factors affecting the photon's frequency. The solution obtained in the expanding space of Friedmann's metric manifests the exponential cosmological redshift: its magnitude increases, exponentially, with distance. This explains the accelerate expansion of the Universe registered recently by the astronomers. According to the obtained solution, the redshift reaches the ultimately high value $z = e^\pi - 1 = 22.14$ at the event horizon. The paper has been published in *Progress in Physics*, 2012, v.2, L1–L6.

Dmitri Rabounski
Retired

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