## Zdeněk Stuchlík
Institute of Physics, Silesian University in Opava

### The role of the cosmological constant in the motion of Magellanic Clouds in the gravitational field of Milky Way

Authors: Z. Stuchlík and J. Schee

Using the pseudo-Newtonian (PN) potential related to the Schwarzschild-de Sitter spacetimes, we estimate the influence of the repulsive cosmological constant $\lambda \sim 1.3 \times 10^{-56}\,\mathrm{cm}^{-2}$ implied by recent cosmological tests onto the motion of both Small and Large Magellanic Clouds (SMC and LMC) in the gravitational field of the Milky Way. The role of the cosmological constant is on the 10% level and is most conspicuous when binding mass is estimated for the satellite galaxies. We have found a strong influence of cosmic repulsion on the total binding mass for both galaxies; in the case of LMC it grows to 50% level. We have found the effect of the cosmic repulsion to be comparable to the effect of the dynamical friction and to be exceeding the effect of the Andromeda Galaxy.