International Conference
COSMOLOGY ON SMALL SCALES
Dark Matter Problem and Selected Controversies in Cosmology

In honor of the 70th birthday of Prof. Lawrence Somer

September 26–29, 2018
Institute of Mathematics, Czech Academy of Sciences,
Prague, Czech Republic

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  (Moscow State University & Space Research Institute of RAS, Russia)

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  (Afeka College, Israel)

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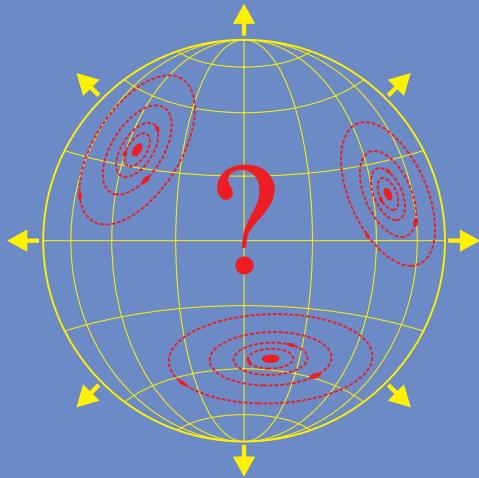
Aims and scope:

In the early twenties of the last century, Alexander A. Friedmann (1888-1925) derived from the system of ten Einstein's equations applied to a perfectly symmetric universe, which is homogeneous and isotropic for every fixed time instant, a nonlinear differential equation for the expansion rate of the universe. The question is whether one can perform such excessive extrapolations, *i.e.* to apply Einstein's equations to galactic or cosmological scales.

The current standard model of cosmology is based on the normalized Friedmann equation which contains, as major parameters, densities of dark matter and dark energy. So, it is timely to gather specialists from different disciplines, including galaxy evolution and planetology, to discuss the problem of existence of dark matter and dark energy at various scales, both from theoretical and observational points of view.

Conference topics:

- Mathematical aspects of small-scale cosmological effects
- Arguments for and against dark matter, and revisiting the foundations of physics
- Alternative models for dark matter and dark energy
- A systematic discord in the value of the Hubble constant at various scales
- Local Hubble expansion – search for observational and laboratory evidence
- Cosmological effects in localized astronomical systems
- Complementary redshifts of non-cosmological nature
- Quantum effects on the early universe and their observational imprints nowadays

Deadlines:

May 31, 2018 – registration
May 31, 2018 – submissions for Proceedings
July 31, 2018 – acceptance of contributions to Proceedings

http://css2018.math.cas.cz