



# International Conference

## COSMOLOGY ON SMALL SCALES

### Excessive Extrapolations and Selected Controversies in Cosmology

*September 23–26, 2020*

*Institute of Mathematics, Czech Academy of Sciences  
Prague, Czech Republic*

#### Scientific committee:

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

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Prof. Andre Maeder  
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Prof. Alexei Starobinsky  
(Landau Institute of RAS, Russia)

#### Local organizing committee:

Prof. Michal Krizek (Chair)

Assoc. Prof. Yurii Dumin (Vice-chair)

Assoc. Prof. Tomas Vejchodsky

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#### Aims and scope:

According to the modern cosmological paradigm, about 2/3 of the energy of the Universe is in the dark form and about 5/6 of the matter is invisible. However, numerous recent attempts to detect independently the dark-matter particles failed, and a number of other problems with the existence of dark energy and dark matter (such as the anomalous friction in the dark-matter halos of galaxies, etc.) become now more and more obvious.

All these troubles raise the question if the "dark" substance is merely a result of excessive extrapolations involved in the theoretical analysis? So, it is timely to gather specialists from various branches of astronomy and astrophysics to discuss these issues.

#### Conference topics:

- Mathematical aspects of the extrapolations used in cosmology
- 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 derived by different methods
- Theoretical possibility and observational evidence for small-scale cosmological effects
- Complementary redshifts of non-cosmological nature
- Quantum effects on the early Universe and their observational imprints at the present time

#### Deadlines:

April 30, 2020 – registration

April 30, 2020 – submissions for Proceedings

June 30, 2020 – acceptance of contributions to  
Proceedings

<http://css2020.math.cas.cz/>