

PROGRAM OF THE CONFERENCE

Wednesday, September 23

12:00–14:00 Registration

14:00–14:15 Opening

Chair: Michal Krížek

14:15–15:00 **Pavel Kroupa**, The star-formation histories of nearby galaxies raises questions on cosmology (ZOOM presentation)

15:00–15:30 **Itzhak Goldman**, Astrophysical bounds on mirror dark matter (ZOOM presentation)

15:30–16:00 Coffee Break

Chair: Michal Krížek

16:00–16:30 **Wolfgang Oehm**, A possible constraint on the validity of general relativity for very strong gravitational fields

16:30–17:00 **Alexei A. Starobinsky**, New cosmological constraints on scalar-tensor gravity models and consequences for the H_0 tension (ZOOM presentation)

17:00–17:30 **Yurii V. Dumin**, The problem of causality in the uncertainty-mediated inflationary model (ZOOM presentation)

17:30–17:50 **Yurii V. Dumin**, The problem of flatness in various cosmological models (ZOOM presentation)

Thursday, September 24

Chair: Kurt Koltko

9:00–9:45 **Václav Vavryčuk**, Cosmic microwave background as thermal radiation of intergalactic dust?

9:45–10:15 **Jan Papež**, Linear algebraic solvers in Cosmic Microwave Background data analysis

10:15–10:45 Coffee Break

Chair: Vladimír Novotný

10:45–11:10 **Čestmír Hradečný**, Gravitational potential energy and dark matter and energy

11:10–11:40 **Yash P. Aggarwal**, Vedic cosmology on the characteristics of dark matter and its role: Implications for the search for dark matter particle (Video presentation)

11:40–12:00 **Charles J. Sven**, The physics of dark energy (Video presentation)

12:00–14:00 Lunch Break

Chair: Wolfgang Oehm

14:00–14:45 **Kurt Koltko**, Gauge CPT and the baryonic Tully-Fisher law

14:45–15:30 **Michal Krížek**, Excessive extrapolations of Einstein's equations

15:30–16:00 Coffee Break

Chair: Michal Krížek

16:00–16:30 **Daniele Sorini**, Radiation-Lambda equality and reionisation: coincidence or anthropic prediction?

Friday, September 25

Chair: Michal Krížek

9:00–9:30 **Frederic Lassiaille**, Gravitational model of the three elements theory: Formalizing comments

9:30–10:00 **Václav Vavryčuk**, Considering light-matter interactions in Friedmann equations

10:00–10:30 **Ahmad Hujeirat**, The cosmological fate of neutron stars and their connection to dark matter and dark energy

10:30–11:00 Coffee Break

Chair: Václav Vavryčuk

11:00–11:20 **Thomas Prevenslik**, Cosmology and redshift in cosmic dust

11:20–12:00 **Yan Breek**, Geometric discrete unified theory framework and its applications in cosmology (Video presentation)

12:00–14:00 Lunch Break

Chair: Thomas Pervenslik

14:00–14:45 **Michal Krížek**, A critical review of paradoxes in the special theory of relativity

14:45–15:20 **Yash P. Aggarwal**, A working hypothesis of a cyclic universe that neither undergoes neither cosmic inflation nor a contraction based on Vedic cosmology (Video presentation)

15:20–15:25 **Albin Joseph**, Exact solutions of some dynamical variables in FRW universe with scalar field dynamics (Poster presentation)

15:25–15:30 **Vladimír Novotný**, Cosmological coincidences in the expanding universe (Poster presentation)

Saturday, September 26

9:00–12:00 Excursion to the astronomical and cosmological sights of Prague guided by **Michal Krížek**. We will meet at 9:00 in front of the main gate of the Institute of Mathematics at Žitná 25.