

Program for the scientific workshop on the eXTP mission

31 August:

Opening

9:00-9:10 Welcome (ShuangNan Zhang; Bin Wang)

9:10-9:15 Practical information (Sergey Tsygankov)

Session 1: eXTP and its era

9:15-9:30 *Update on the eXTP Mission for Launch in 2030* – ShuangNan Zhang

9:30-9:50 *eXTP as a global mission: payload, science and organization* – Feng Hua

9:50-10:05 *Overall Design and Development Progress of eXTP platform* – Zhiming Cai

10:05-10:20 *eXTP Mission Overview: Architecture and Development Status* – Jianhua Zheng

10:20-10:35 *International collaboration of the eXTP mission* – Hongwei Liu

10:35-11:05 *Coffee break*

11:05-11:20 *The Cosmic X-ray Background Explorer (CXBE)* – Roland Walter

11:20-11:35 *The Globe Orbiting Soft X-ray Polarimeter (GOSoX)* – Herman Marshall

11:35-11:55: *All Sky Monitoring at X-rays: what comes next?* – Marco Feroci (invited)

Session 2: Ultra dense matter (chair TBD)

11:55-12:10 *Introducing the science case for the WG1* – Sebastien Guillot

12:10-12:35 *Neutron Star Interiors in the eXTP Era: From Macroscopic Observables to Microphysics* – Ang Li (invited)

12:35-13:00 *Constraining the equation of state of ultra-dense matter in neutron stars* – Tuomo Salimi (invited)

13:00-14:10 *Lunch break*

14:10-14:25 *Pulse profile modelling of accreting millisecond pulsars: disk occultation and parameter inference* – Yinghan Mao

14:25-14:40 *Equation-of-state-informed pulse profile modeling* - Mariska Hoogkamer

14:40-14:55 *Polarised X-ray emission from accreting millisecond pulsars* – Alessandro Papitto

14:55-15:10 *Accreting Millisecond X-ray Pulsars as Laboratories for eXTP-era Spectral and Timing Studies* – Andrea Sanna

15:10-15:25: Flash talks WG1

15:25 -15:55 *Coffee break*

Session 3: Toward innovative spectral-timing-polarization analysis (chair TBD)

15:55-16:20 *The power of spectral-timing-polarimetry analysis* – Adam Ingram (Invited)

16:20-16:40 *X-ray spectral-timing of accreting black holes: current challenges and prospects for the eXTP era* – Guglielmo Mastroserio (solicited)

16:40-17:00 *Phase-Resolved Spectroscopy and Polarimetry of Black-Hole QPOs via Mode Decomposition: Evidence for Precession and Prospects with eXTP* – Qingcang Shui (solicited)

17:00-17:20 *nDspec: a new Python-based modelling software for multi-dimensional model fitting* – Matteo Lucchini (solicited)

RECEPTION @ the Tuorla observatory. Bus leaves at 18:00

1 September:

Session 4: Strong field gravity (chair TBD)

09:00-09:15 *Introducing the science case for the WG2* – Qingcui Bu

09:15-09:40 *Probe strong gravity and the inner accretion regions around black holes through combined spectral, timing, and polarimetric observations* – Bei You (invited)

09:40-10:05 *Probing the inner regions around black holes with spectroscopy, timing and polarimetry* – Giorgio Matt (invited)

10:05-10:25 *Accretion geometry of black hole X-ray binaries revealed by X-ray data* – Honghui Liu (solicited)

10:25-10:40 *Variability from accreting black holes across the full X-ray band* – Niek Bollemeijer

10:40-11:10 *Coffee break*

11:10-11:25 *The Promise of eXTP for mapping the evolution of accretion flows in X-ray Binaries* – Lian Tao

11:25-11:40 *Bridging simulations and observations: advancing X-ray spectral models with GRMHD* – Swarnim Shashank

11:40-11:55 *X-ray polarimetry as a tool to study compact objects* – Juri Poutanen

11:55-12:15: *Flash talks WG2*

Session 5: Magnetism (chair TBD)

12:15-12:30 *Introducing the science case for the WG3* – Mingyu Ge

12:30-12:55 *Radiative Processes and QED Effects in strong magnetic fields: Implications for X-ray Pulsars* – Alexander Mushtukov (invited)

12:55-14:00 *Lunch break*

14:00-14:25 *Highly magnetised isolated neutron star observations - the smoking gun of QED vacuum birefringence?* – Ruth Kelly (invited)

14:25-14:40 *Can we see the shape of the magnetic field?* – Nabil Brice

14:40-14:55 *Polarimetric views of X-ray Pulsars: From IXPE to eXTP* – Sofia Forsblom

14:55-15:15 *Study the low accretion rate regime of accreting X-ray pulsars with eXTP* – Long Ji (solicited)

15:15-15:30 *Phase-Resolved Polarimetry of 1E 2259+586 in an Active State: IXPE Results and Prospects for eXTP* – Lorenzo Marra

15:30-16:00 *Coffee break*

16:00-16:20: *Signatures of thermal resonant Comptonization as geometry tracers in accreting neutron stars* – Ekaterina Sokolova-Lapa (solicited)

16:20-16:35: *Flash talks WG3*

16:40-17:30 *Working group coordinators meeting*

18:00-21:00: *CONFERENCE DINNER*

2 September:

Session 6: Multimessenger (chair TBD)

9:00-9:15: *Introducing the science case for the WG4* - TBD

9:15-9:30 *Enable time-domain and multi-messenger astrophysics, in synergy with future observatories across the electromagnetic and gravitational-wave spectrum* – Eleonora Troja

9:30-9:45 *Fast X-ray Transients: From EP Breakthroughs to eXTP Prospects* – He Gao

9:45-10:00 *Observing Electromagnetic Counterparts of Gravitational-Wave Event* – Shu-Xu Yi

10:00-10:15 *The observational properties of magnetar bursts and outbursts* – Lin Lin

10:15-10:30 *Detection prospects of the emissions from gamma-ray burst by eXTP/PFA* – Mi-Xiang Lan

10:30-11:00 *Coffee break*

11:00-11:15 *LISA and eXTP: overlap and synergy?* – Alessandra De Rosa

11:15-11:30 *eXTP perspectives on Dark Matter searches* – Denys Malyshev

11:30-11:45 *Detection of disk-jet co-precession in a tidal disruption event* – Yanan Wang

Session 7: Observatory science (chair TBD)

11:45-12:00 *Introducing the science case for the WG5* – Ping Zhou

12:00-12:15 *Exploring X-ray binaries with eXTP* – Liang Zhang

12:15-12:30 *Constraining the geometry of the outer disk region studying the polarization in the X-Ray dips* – Alessandro Di Marco

12:30-12:45 *IXPE view of not pulsating accreting neutron stars in X-ray binaries* – Fabio La Monaca

12:45-13:00 *The efficiency of geometric beaming in super-Eddington X-ray sources* – Varpu Ahlberg

13:00-14:00 *Lunch break*

14:00-14:15 *X-ray Polarimetry of Pulsar Wind Nebulae: Insights from IXPE and the Path to eXTP* – Kuan Liu

14:15-14:30 *AGN research expected in the observatory science of eXTP* – Jirong Mao

14:30-14:45 *Changing-State AGN as Laboratories for SMBH Accretion Physics* – Claudio Ricci

14:45-15:00 *Testing particle acceleration and jet composition models in supermassive black hole jets with IXPE* – Ioannis Liodakis

15:00-15:30: *Flash talks WG4 and WG5*

Session 8: Future missions (chair TBD)

15:30-15:50 *Building on SVOM: the CATCH-PM constellation for astrophysical transients hunting* – Stephan Schanne (solicited)

15:50-16:20 *Coffee break*

16:20-16:35 *The POLAR-2 mission* – Hancheng Li

16:35-16:50 *The EXPO Mission* – Lorenzo Marra

16:50-17:05 *The Herd Mission* – ShuangNan Zhang

17:05-17:20 *Picosecond Intensity Interferometry to resolve micro to nanoarcsecond accreting sources* – Gilles Koziol

17:20-17:35 *X-ray interferometric space telescope (XRIstel) mission concept* – Phil Uttley

17:35-17:45 *Concluding remarks*