

PROGRAM **QSO Astrophysics, Fundamental physics, and Astrometric Cosmology in the Gaia era** 6-9 June 2011

QSO astrometry in the context of observational astrophysics

Monday, 6th June

08:30-09:00 - Registration & Welcome

09:00-09:45 - Francois Mignard QSO recognition and observation with Gaia

09:45-10:30 - Ian Browne Searching for offset AGN; kicked black holes, binary black holes, gravitational lensing

10:30-11:00 - Coffee Break

11:00-11:20 - Yassine Damerdj The QSO classifier in Gaia

11:20-11:40 - Francois Finet Quasars and bright multiply imaged quasars detected by GAIA

11:40-12:00 - Alexandre Andrei GAIA Initial QSO Catalogue - The Variability and Compactness Indexes

12:00-12:20 - Francois Taris Optical observations of QSOs for the link of reference systems

12:20-12:40 - Sonia Antón Photocenter variability and AGN components

12:40-14:00 - Lunch

14:00-14:45 - Norbert Bartel VLBI astrometry for probing astrophysics, celestial reference frames, and general relativity

14:45-15:30 - Valeri Makarov Quasometry, Its Use and Purpose

15:30-16:00 - Coffee Break

16:00-16:20 - Jacques Roland Determination of the characteristics of the BBH system using VLBI observations

16:20-16:40 - Andrei Lobanov Opacity in nuclear regions of AGN: A factor for astrometry, a tool for astrophysics

16:40-17:00 - Kirill Sokolovsky A VLBA survey of opacity-driven positional shifts in AGN

17:00-17:20 - Kenneth Johnston Stability of QSO Astrometric Positions

17:20-17:40 - Brigitte Rocca-Volmerange AGN and Star formation from powerful radiogalaxies with Gaia

17:40-18:00 - Christine Ducourant The extended objects as they will be seen and treated by Gaia

QSO, Reference Frame and the fabric of Space-Time

Tuesday, 7th June

09:00-09:45 - Sergei Klioner Astronomical relativistic reference systems and their application for astrometry

09:45-10:30 - Sergei Kopeikin Astrometric reference frames in the solar system and beyond

10:30-11:00 - Coffee Break

11:00-11:30 - Patrick Charlot The ICRF now and in the future

11:30-11:50 - Geraldine Bourda VLBI observations to prepare the alignment with the future Gaia frame

11:50-12:10 - Richard Porcas Issues of radio and optical reference-frame alignment

12:10-12:30 - Sandor Frey Radio-optical outliers - a case study with ICRF2 and SDSS

12:30-14:00 - Lunch

14:00-14:20 - Jean Souchay The LQAC (Large Quasar Astrometric Catalogue): principle and construction

14:20-14:40 - Francois Mignard From the Gaia Frame to the ICRF-3

14:40-15:25 - Donato Bini Observers, observables and frames in general relativity: applications to light propagation tracing

15:25-15:55 - Coffee Break

15:55-16:40 - Fernando de Felice Physical measurements in General Relativity

16:40-17:00 - Matteo Luca Ruggiero Using ring laser systems to measure gravitomagnetic effects on Earth

17:00-17:20 - Stefano Bertone Relativistic astrometry and Time Transfer Functions

17:20-17:40 - Pierre Teyssandier New methods for calculating the propagation direction of light in static, spherically symmetric space-times

17:40-18:00 - Mariateresa Crosta Physics and Coordinates in competition in highly accurate measurements

Astrometric Cosmology

Wednesday, 8th June

09:00-09:45 - Mario Lattanzi **Astrometric Cosmology**

09:45-10:10 - Umami Abbas **The halo of Milky Way**

10:10-10:40 - **Coffee Break**

10:40-11:25 - Salvatore Capozziello **Dark Energy and Dark Matter as Curvature Effects**

11:25-12:10 - Jorge Paramos **Testing a non-minimal coupling between matter and curvature and beyond**

12:10-12:30 - Alberto Vecchiato **Putting Einstein to test: astrometric experiments in fundamental physics**

12:30-14:00 - **Lunch**

14:00-14:20 – Mario Gai **Gravitation Astrometric Measurement Experiment**

14:20-14:40 – Giuseppe Cimo **Accurate astrometry for Planetary Radio Interferometry and Doppler Experiment**

14:40-15:00 - Paulo Freire **GAIA and Millisecond Pulsars**

15:00-15:20 - **Poster session**

15:20-15:50 - **Coffee Break**

15:50-16:35 - Orfeu Bertolami **Underlying principles of our current theories**

16:35-17:20 - Fernando de Felice **The observer's space-time puzzle**

17:20-18:20 - **Splinter Meetings**

20:00 - **Conference Dinner**

Epistemology Implications of current theories of the Universe

Thursday, 9th June

09:30-10:15 - Orfeu Bertolami **What if ... General Relativity is not the Theory?**

10:15-11:15 - **Open general discussion**

11:15-11:45 - **Coffee Break**

11:45-12:15 - **Summary of the meeting**

12:15-12:30 - **Concluding remarks**

12:30 - **End of the meeting**

POSTERS

Ioana Sotuela

UCM-UAM/MDSCC-INSIA

The contribution of X/Ka-band VLBI to multi-wavelength studies of the Celestial Frame

Taehyun Jung

Korea Astronomy Space science Institute (KASI)

Korean VLBI Network (KVN) and its recent activities