



PLATO Science in Italy Workshop: ready to PLATO data exploitation? Catania, 25-27 September 2023

Draft Program (ver. 18 Sep 2023)

25 September 2023

9:30

Welcome (5 m) (I. Pagano, E. Tommasi)

9:35

Session 1 - Status and general information

- Status of the mission: (I. Pagano) 25 m
- PLATO performance (F. Borsa) 20 m
- From CCDs to data (R. Cosentino) 15 min
- PLATO data distribution: type of data and timing (G. Piotto) 25 m

11:00 *Coffee break: 30 m*

11:30

- The PIC:
 - Fields in the PIC (V. Nascimbeni) 30 m
 - Targets in the PIC (M. Montalto) 30 m
 - The M stars sample (L. Prisinzano) 15 m

Session 1 discussion 30 m (chaired by G. Piotto)

13:15 *Lunch: 75 m*

14:30

- Future instruments for exoplanet: what's next? (R. Ragazzoni) 30 m

15:00

Session 2 - Stellar Science: expected gain, challenges - part 1

- Asteroseismology with PLATO (A. Miglio) 30 m



- Magnetic activity and Rotation with PLATO (S. Breton) 30 m

16:00 Coffee break: 30 m

16:30

- Stellar parameters with PLATO (S. Cassisi) 30 m
- Asteroseismology as a way to calibrate Rossby number and gyrochronology relations (E. Corsaro) 15 m
- Towards a reliable Rossby number calibration for MS and cool stars (A. Bonanno) 15 m
- A theoretical framework for M dwarf stars in the context of PLATO (S. Cassisi) 15 m
- Modeling of stellar surface (A. Petralia) 15 m

18:00 end of day 1

26 September 2023

9:15

Session 2 - Stellar Science: expected gain, challenges - part 2

- Stellar parameters derived from space-based photometry and high-resolution spectroscopy (A. Frasca) 15 m

Session 2 discussion 30 m (chaired by A.F. Lanza)

10:00

Session 3– Ground-based Observation Program (GOP), Ancillary Science, Other topics

- Organization of the GOP & radial velocity obs (L. Malavolta) 30 m
- GOP: imaging (S. Desidera) 30 m

11:00 Coffee break: 30 m

11:30

- GOP: photometry (D. Nardiello) 20 m
- Complementary ground based spectroscopy (M. Rainer) 20 m

Session 3 discussion 30 m (chaired by A. Sozzetti)

12:40

Session 4 - Terrestrial planets in the HZ of solar type stars: expected gain, challenges



- Terrestrial planets in HZ of solar type stars: challenges and future prospects (L. Malavolta) 30 m

13:10 Lunch: 80 m

14:30

- Exoplanet around M stars: the contribution of PLATO (L. Affer) 30m
- Efficiency of the oxygenic photosynthesis on Earth-like planets (G. Covone) 15m
- Climate and habitability of rocky planets (L. Silva) 15 m
- Refractions and Biosignatures in Atmosphere of Habitable Exoplanets (M. Maris) 15m

Session 4 discussion 20 m (chaired by F. Borsa)

16:05 Coffee break: 25 m

16:30

Session 5 - Neptunians and Jovians, Atmospheres: expected gain, challenges – part 1

- Synergies with Gaia (A. Sozzetti) 30 m
- Synergies with Ariel (G. Micela) 30 m
- Synergies with Tess (M. Montalto) 30 m

18:00 end of day 2

18:30

Presentazione del libro di Giovanni Covone *“Altre Terre – viaggio alla scoperta dei pianeti extrasolari”* Harper Collins (2023), libreria Mondadori, via Etnea 135.

20:30

Social dinner @Dimora De Mauro, Via Gesualdo Clementi, 5, Catania

27 September 2023

9:15

Session 5 - Neptunians and Jovians, Atmospheres: expected gain, challenges – part 2



- Neptune-sized and unexpected: unveiling the variety of compositions of intermediate-size transiting planets with HARPS-N (M. Pinamonti) 30 m
- A systematic validation of hot Neptunes in TESS data (G. Covone) 15 m
- PLATO on the shoulders of TESS: analyzing mono-transit planet candidates in TESS data as a prior knowledge for PLATO observations (C. Magliano) 15 m
- Exoplanet atmospheric characterization with PLATO Phase curves: Best Candidates (V. Singh) 15 m

Session 5 discussion 15 m (chaired by A. Bonomo)

10:45

Session 6 - From Formation to Architectures: expected gain, challenges (exomoons, rings, ...)

- Frequency of Jupiter analogs in small-planet systems to understand the formation of short-period super-Earths/sub-Neptunes and our Solar System. The fundamental role of PLATO (A. Bonomo) 30 m

11:15 Coffee break: 30 m

11:45

- The contribution of PLATO to the quest for young exoplanets (S. Benatti) 30 m
- A follow-up of the very young multi-planet system V1298 Tau (M. Damasso) 20 m
- TTV e TVD (L. Borsato) 20 m
- Exoplanets in star clusters (D. Nardiello) 20 m

Session 6 discussion 15 m (chaired by V. Nascimbeni)

13:30 Lunch: 60 m

14:30

Session 7 – Star-Planet interaction

- Studying angular momentum distribution in transiting planetary systems with PLATO. The role of tidal and magnetic star-planet interactions (A.F. Lanza) 30 m
- Analysis of flares in TESS light curves (S. Colombo) 15 m
- White-light stellar flares at high cadence: what can PLATO tell us about the impact of flares on exoplanets? (G. Bruno) 15 m
- SPI @high energies and possible synergies with PLATO 15 m (I. Pillitteri)

Session 7 discussion 15 m (chaired by S. Messina)

16:00



Session 8 - Highlights and plans

Highlights of the workshop (G. Micela) 20 m

Discussion: What we need as a Team? (chaired by G. Micela)

Future meetings

17:00 end of workshop