

The future of solar modelling : From a Standard to a Modern view of the Sun

Monday, September 4, 2023 - Thursday, September 7, 2023

Scientific Program

Monday

8h45-9h00 Welcome (G. Buldgen)

9h00-9h45 The current state of solar modelling (Jørgen Christensen-Dalsgaard)

1. Observations - Abundances

9h45-10h30 Solar Abundances (A. Amarsi)

Coffee (10h30-11h00)

11h00-11h45 Abundances measurements from helioseismology (S. Vorontsov)

11h45-12h00 Recent inferences of abundances of individual elements from helioseismology (A. Oreshina)

2. Solar and stellar modelling

12h00-12h45 Standard and extended Calibration procedures (S. Ayukov)

LUNCH (12h45-14h00)

2.1 Diffusion

14h00-14h45 Diffusion and radiative accelerations (M. Deal)

2.2 Angular momentum transport

14h45-15h30 Models with AM transport (P. Eggenberger)

Coffee (15h30-16h00)

16h00 – 16h45 Hydrodynamical simulations and AM transport (L. Petitdemange)

16h45-17h30 Gravity mode excitation by CBM/ transport by IGW (Charly Pinçon)

17h30-18h00 Open discussion

Tuesday

2.3 Convection

9h00-9h45 Convection and convective boundary mixing (A. Le Saux)

2.4 Equation of state – Nuclear reactions

9h45-10h30 Nuclear reactions and electronic screening (W. Däppen)

Coffee (10h30-11h00)

11h00-11h45 SAHA-S EOS (V. Baturin)

11h45-12h30 MHD EOS (R. Trampedach)

LUNCH (12h30-14h00)

2.5 Helioseismic constraints and Neutrino experiments

14h00-14h45 Neutrino measurements and abundances (F. Villante)

14h45-15h30 Current datasets/observations (T. Appourchaux)

Coffee (15h30-16h00)

16h00-16h45 Current state of solar rotation measurements (R. Garcia)

16h45-17h30 Open discussion

Wednesday

2.6 Opacities

9h00-9h45 Opacity OPAS (P. Cossé)

9h45-10h30 Opacity SCO-RCG (J.C. Pain)

Coffee (10h30-11h00)

11h00-11h45 Opacity OP (A. Pradhan)

11h45-12h30 Opacity OPLIB (J. Colgan/C.Fontes)

LUNCH (12h30-14h00)

2.7 Seismic modelling techniques

14h00-14h45 Asteroseismic inversion techniques (J. Bétrisey)

14h45-15h30 Solar seismic models (G. Buldgen)

Coffee (15h30-16h00)

16h00-17h00 Open discussion

Thursday

3. PMS – From the Sun to stars

9h00-9h45 Planetary formation models (T. Guillot)

9h45-10h30 Effects of pre-main sequence evolution (M. Kunitomo)

Coffee (10h30-11h00)

11h00-11h45 Importance of the Sun for other stars (G. Meynet)

11h45-12h30 Concluding remarks and associated discussion (A. Noels)

LUNCH (12h30-14h00)