

Investigating the roots:

How our perception of the Milky Way System is shaped by our knowledge of atomic data products

Monday, October 3rd, 2022

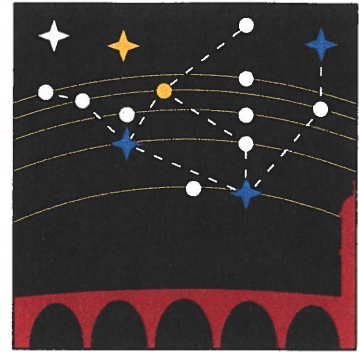
- 17:00 | Welcome Reception and Registration
- 19:00 | Walk to nearby restaurant *BräuStadl* (optional)

Tuesday, October 4th, 2022

- 09:00 | **Andreas Sander**
Introduction to the Workshop
- 09:15 | **D. John Hillier**
Review: Implementation and Requirements of Atomic Data in Stellar Atmospheres
- 10:15 | *Coffee Break*
- 10:45 | **Joachim Puls**
Stellar Abundance Determinations in Hot Stars and their dependence on Atomic Data
- 11:30 | **Matti Dorsch**
(Trans-)Fe elements in Hot Subdwarfs and White Dwarfs
- 12:00 | **Paco Najarro**
Massive Stars in the Infrared and the need for expanded atomic data for abundance analyses
- 12:30 | *Lunch Break*
- 14:00 | **Maria Bergemann**
Determination of metal abundances in cool stars
- 14:45 | **Norbert Przybilla**
Progress and data needs for line-formation calculations in intermediate to hot star atmospheres
- 15:30 | *Coffee Break*
- 16:00 | **Jörn Wilms**
Atomic Data in X-ray (astronomical) Spectroscopy
- 16:45 | **Javier Garcia**
X-ray Spectroscopy of Astrophysical Environments
- 17:30 | **Peter van Hoof**
Nebular Line modelling and the Atomic Line List

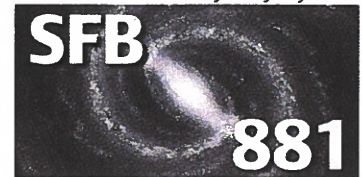
Wednesday, October 5th, 2022

- 09:00 | **Stefan Schippers**
Review: Laboratory Measurements of atomic data: techniques, advantages, and limits
- 10:00 | *Coffee Break*
- 10:30 | **Ahmad Tauheed**
Energy structure and transition data in the UV regime
- 11:15 | **Henrik Hartman**
Laboratory Atomic Astrophysics for near-infrared Stellar Spectroscopy
- 11:45 | **Haris Kunari**
Analysis of spectra of ions recorded using high-res grating spectrographs and FT-Spectrometers
- 12:15 | **Pedro Amaro**
Dielectronic recombination of highly charged Fe ions
- 13:00 | *Lunch Break*
- 14:30 | **Natalie Hell**
Laboratory X-ray spectroscopy of highly charged ions for astrophysical applications
- 15:15 | **Efrain Gattuzz**
Atomic data for high-resolution X-ray spectra
- 15:45 | *Bus trip to MPIK*



A Workshop on Atomic Data
Heidelberg, 3-7 Oct 2022

This workshop is supported by the
SFB 881 – *The Milky Way System*



Funded by

DFG Deutsche
Forschungsgemeinschaft
German Research Foundation

Wednesday, October 5th, 2022 (continued)

- 16:15 | Excursion to Max Planck Institute for Nuclear Physics (MPIK)
Visit of experiments including introductory presentations
19:30 | *Bus back to Heidelberg*
20:00 | *Conference Dinner* (Brauhaus Vetter)

Thursday, October 7th, 2022

- 09:00 | **Chintan Shah**
Laboratory X-ray astrophysics studies using electron beam ion traps and advanced light sources
09:45 | *Coffee Break*
10:15 | **Catherine Ramsbottom**
Review: Recent R-matrix atomic data for astrophysical applications
11:15 | **Anil Pradhan**
The Opacity Project: New calculations of astrophysical opacities using the R-matrix method
12:00 | **Sultana Nahar**
Radiative atomic processes in astrophysical plasma
12:45 | *Lunch Break*
14:15 | **Giulio Del Zanna**
Atomic structure calculations and the CHIANTI database
15:00 | **Pascal Quinet**
Atomic data calculations for elements beyond the iron group
15:45 | **Abdul Wajid**
Critical evaluation of energies, wavelengths, and transition probabilities for Co I-like zinc (Zn IV) in the ultraviolet wavelength region
16:15 | *Coffee Break*
16:35 | **Natalia Oreshkina**
Astrophysical line diagnosis requires non-linear dynamical atomic modeling
17:20 | **Jakob Stierhof**
Independent calibration of soft x-ray transitions
18:00 | *Public Bus to Bismarckplatz (self-paid)*
18:30 | *Heidelberg City Tour*
(with focus on Astronomy, starting at Bunsen-Statue, Altstadt)

Friday, October 7th, 2022

- 09:00 | **Charles Cheung**
Developing a suite of scalable atomic structure codes
09:45 | **Sergio Simon-Diaz**
Getting ready for a reliable abundance analysis of a sample of more than 1500 Galactic OB-type stars: motivations and first results
10:15 | *Coffee Break*
10:45 | **Klaus Werner, Helge Todt, Sultana Nahar, and José Crespo**
SOC Workshop Summary
11:45 | **Discussion: Atomic Data Needs and Determination Capabilities**
12:45 | *Lunch Break*
14:15 | **Discussion: Follow-up Projects/Collaborations and possible future workshop(s)**
15:00 | *Coffee Break*
15:15 | **Ming-Feng Gu**
Lecture: Calculating your own atomic data with FAC
16:30 | **Sultana Nahar**
Hands-on session: Calculating your own atomic data with SUPERSTRUCTURE
17:30 | *Coffee Break*
18:00 | **Sultana Nahar**
Hands-on session: Calculating your own atomic data with SUPERSTRUCTURE (continued)
20:00 | Walk to nearby restaurant *Das Bootshaus* (optional)