

# X-ray Spectral Fitting



Prague | February 2022



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**Astronomical  
Institute**  
of the Czech Academy  
of Sciences

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*All times are in Central European Time and hands-on sessions are in-person only.*  
XSF hands-on: [peterboorman.com/tutorial\\_bxa](https://peterboorman.com/tutorial_bxa)

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*Monday 7th February 2022*

*– Day 1, X-ray spectral fitting introduction –*  
*(Talk chair: Jiří Svoboda)*

9:00 – 9:30 – *In-person registration & coffee break*

9:30 – 9:45 – *Welcome*  
– Presenter: **Peter Boorman**

9:45 – 11:00 – Hands-on: *Introduction to Xspec/PyXspec*

11:00 – 12:00 – Hands-on: *Introduction to Sherpa*

12:00 – 14:00 – *Lunch*

14:00 – 15:00 – Plenary lecture: *The Past, Present & Future of X-ray Spectral Analysis*  
– Presenter: **Keith Arnaud**

15:00 – 15:30 – *Coffee break*

15:30 – 16:00 – *Winter school photo*

16:00 – 17:00 – Plenary lecture: *High Energy Astrophysics Spectroscopy*  
– Presenter: **Richard Mushotzky**

*– End of day 1 –*



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*Tuesday 8th February 2022*

*– Day 2, BXA introduction –  
(Talk chair: Daniel Kynoch)*

- 9:00 – 9:30 – *Coffee break*
- 9:30 – 11:00 – Hands on: *Xspec & Sherpa exercises*
- 11:00 – 12:00 – Plenary lecture: *Introductory talk for Bayesian X-ray Analysis*  
– Presenter: **Johannes Buchner**
- 12:00 – 14:00 – *Lunch*
- 14:00 – 14:30 – Invited talk: *X-ray spectral analysis in eROSITA Final Equatorial Depth Survey (eFEDS): an example of using BXA*  
– Presenter: **Teng Liu**
- 14:30 – 15:00 – Invited talk: *XMMFITCAT-Z: Using photo-z information within BXA*  
– Presenter: **Angel Ruiz**
- 15:00 – 15:30 – *Coffee break*
- 15:30 – 16:30 – Hands-on: *BXA exercises, session 1: spectral fitting & model comparison*
- 16:30 – 17:00 – *Questions & discussion*

*– End of day 2 –*



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*Wednesday 9th February 2022*

*– Day 3, BXA introduction –  
(Talk chair: Peter Boorman)*

9:00 – 9:30 – *Coffee break*

9:30 – 12:00 – Hands-on: *BXA exercises, session 1: spectral fitting & model comparison*

12:00 – 14:00 – *Lunch*

14:00 – 14:30 – Invited talk: *A BXA-driven study of reliability of X-ray Spectral fits in determining AGN torus morphology*  
– Presenter: Tathagata Saha

14:30 – 15:00 – Invited talk: *Deriving redshifts from X-ray spectra of obscured AGN using BXA*  
– Presenter: Charlotte Simmonds

15:00 – 15:30 – *Coffee break*

15:30 – 16:30 – Hands-on: *BXA exercises, session 1: spectral fitting & model comparison*

16:30 – 17:00 – *Questions & discussion*

– *Virtual social evening*  
19:00 – An opportunity for all participants to meet, greet and play online games.  
– Organiser: Abhijeet Borkar

*– End of day 3 –*



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*Thursday 10th February 2022*

*– Day 4, BXA more advanced concepts –*  
(Talk chair: Anastasia Yilmaz)

9:00 – 9:30 – *Coffee break*

9:30 – 10:30 – Hands-on: *BXA analyses part II*  
– Presenter: Johannes Buchner & Peter Boorman

10:30 – 12:00 – Hands-on: *BXA exercises, session 2: more advanced concepts*

12:00 – 14:00 – *Lunch*

14:00 – 14:30 – Invited talk: *Complex modelling with many datasets within BXA*  
– Presenter: Devang Liya

14:30 – 15:00 – Invited talk: *Exploring the obscuration properties of AGN in the Chandra Deep Wide Field Survey with BXA*  
– Presenter: Alberto Masini

15:00 – 15:30 – *Coffee break*

15:30 – 16:30 – Hands-on: *BXA exercises, session 2: more advanced concepts*

16:30 – 17:00 – *Questions & discussion*

19:00 – *Winter school meal*  
– Venue: TBD

*– End of day 4 –*



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*Friday 11th February 2022*

*– Day 5, BXA more advanced concepts –  
(Talk chair: Jiří Svoboda)*

9:00 – 9:30 – *Coffee break*

9:30 – 12:00 – Hands-on: *BXA exercises, session 2: more advanced concepts*

12:00 – 14:00 – *Lunch*

14:00 – 14:30 – Invited talk: *Bayesian spectral analysis for large XMM surveys*  
– Presenter: Lingsong Ge

14:30 – 15:00 – Invited talk: *The synergy between Monte Carlo Radiative  
Transfer and Artificial Neural Networks*  
– Presenter: Gabriele Matzeu

15:00 – 15:30 – *Coffee break*

15:30 – 16:30 – Hands-on: *BXA exercises, session 2: more advanced concepts*

16:30 – 17:00 – *Closing remarks*

*– End of winter school –*