Joonas Nättilä

joonas.a.nattila@utu.fi

Sex: Male
Born: June 25th, 1989, Tornio, Finland
Nationality: Finnish Citizen
Languages: Finnish (native), English, Swedish

Tuorla Observatory
University of Turku
Väisälantie 20
Turku 21500, Finland
Tel: +358 453577992

Research Interests

High energy astrophysics, computational physics, neutron stars

Education

2014–	**Ph.D. in Astrophysics (in progress)**, University of Turku, Finland. Supervisor: Prof. Juri Poutanen, Director of Tuorla Observatory.
2012–2013	**M.Sc. in Astronomy**, University of Oulu, Finland.
2008–2012	**B.Sc. in Physics**, University of Oulu, Finland.

Professional Experience

Summer 2013	**Research Assistant**, University of Oulu, Finland. Constraining neutron star mass and radius.
Summer 2012	**University Trainee**, University of Oulu, Finland. Dependence of X-ray burst spectral evolution on accretion rate.
Summer 2011	**Research Assistant**, University of Oulu, Finland. Thermonuclear type-I X-ray bursts from neutron stars.

Teaching

Summer 2015	**Lecturer, High Performance Computing Summer School**, CSC, Finland. Lecturer & tutor for Finnish IT Center for Science HPC Summer School organization
Spring 2015	**Lecturer, Software tools in Physics**, University of Turku, Finland. Lecturer of the "Introduction to Unix" section of the course (3 ECTS).
Summer 2013 Summer 2012 Summer 2011	**Teaching Assistant, Thermophysics**, University of Oulu, Finland. Exercise assistant of Thermophysics summer course (6 ECTS).
Summer 2012	**Teaching Assistant, Electricity and Magnetism**, University of Oulu, Finland. Exercise assistant of Electricity and Magnetism summer course (4 ECTS).
2011 – 2012	**Assistant, Laboratory Exercises in Physics 1**, University of Oulu, Finland. Assistant in Laboratory Exercises in Physics 1 (3 ECTS), in the fall and spring semesters.
Summer 2011	**Teaching Assistant, Mathematics of Physics**, University of Oulu, Finland. Exercise assistant of Mathematics of Physics summer course (6 ECTS).
Summer 2011 Spring 2011	**Teaching Assistant, Waveforms and Optics**, University of Oulu, Finland. Exercise assistant of Waveforms and Optics (6 ECTS) in spring and summer courses.

Mentoring & Supervision

2015–	**Jere Kuuttila**, M.Sc. thesis research project X-ray burst time evolution dependency on the spectral state
2014–2015	**Jere Kuuttila**, B.Sc. thesis research project X-ray bursts as standard candles

Memberships

2014–	Member of organizing committee for CSC HPC Summer Schools
2012–	Finnish Astronomical Society

Presentations & Talks

2015	**Workshop on Relativistic Astrophysics**, Kavalto, Finland.
2015	**University of Maryland, Colloquium speaker**, Washington, USA.
2015	**University of Tennessee, Colloquium speaker**, Tennessee, USA.
2015	**The Neutron Star Radius, And All That Jazz**, Montreal, Canada.
2015	**40 years of X-ray bursts: Extreme explosions in dense environments**, Madrid, Spain.
2014	**ESAC (visiting scientist presentation)**, Madrid, Spain.
2014	**Physics of Neutron Stars Conference**, St. Petersburg, Russia.
2014	**Astronomers' Days**, Savonlinna, Finland.
2013	**European Week of Astronomy and Space Science**, Turku, Finland.
2012	**Astronomers' Days**, Porvoo, Finland.

Conference organization

2015	**Workshop on Relativistic Astrophysics**, Kavalto, Finland. Member of the local organizing committee.
2015	**PCS Annual Seminar day**, University of Turku, Finland. Chairman & member of the organizing committee.

Research & Travel funding

2015	**$\sim$ 2 000 eur UTUGS Physical and Chemical Sciences Travel Grant and University of Tennessee & University of Maryland visitor program.** Research visit to University of Tennessee, USA & University of Maryland, USA.
2015	**$\sim$ 1 000 eur ESAC travel grant** Student travel grant (40 years of X-ray bursts: Extreme explosions in dense environments -conference).
2015–2017	**$\sim$ 82 000 eur UTUGS Physical and Chemical Sciences Ph.D. Funding** Funding for Ph.D. thesis work.
2014	**$\sim$ 1 000 eur ESAC travel grant** Visiting scientist, Madrid, Spain (collaboration with Dr. Jari Kajava).
2014–2015	**$\sim$ 23 000 eur Väisälä Foundation grant** Magnetar atmosphere models: breaking the barrier between observations and theory

Publications

[1] **J. Nättilä**, A. W. Steiner, J. J. E. Kajava, V. F. Suleimanov, and J. Poutanen. Equation of state constraints for the cold dense matter inside neutron stars using the cooling tail method. *A&A*, *Submitted*, 2015.

[2] **J. Nättilä**, V. F. Suleimanov, J. J. E. Kajava, and J. Poutanen. Models of neutron star atmospheres enriched with nuclear burning ashes. *A&A*, 581:A83, September 2015.

[3] J. J. E. Kajava, **J. Nättilä**, O.-M. Latvala, M. Pursiainen, J. Poutanen, V. F. Suleimanov, M. G. Revnivtsev, E. Kuulkers, and D. K. Galloway. The influence of accretion geometry on the spectral evolution during thermonuclear (type-I) X-ray bursts. *MNRAS*, 445:4218–4234, October 2014.

[4] J. Poutanen, **J. Nättilä**, J. J. E. Kajava, O.-M. Latvala, D. K. Galloway, E. Kuulkers, and V. F. Suleimanov. The effect of accretion on the measurement of neutron star mass and radius in the low-mass X-ray binary 4U 1608–52. *MNRAS*, 442:3777–3790, August 2014.