

Fredrik Windmark

Curriculum Vitae

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Education

2010–2013 **Ph.D. Astronomy**, *University of Heidelberg*, Germany.

2008–2010 **M.Sc. Astronomy**, *Lund University*, Sweden.

2005–2008 **B.Sc. Physics**, *Lund University*, Sweden.

Theses

Ph.D. thesis *Planetesimal formation by sweep-up coagulation*

Advisor Prof. Dr. Cornelis Dullemond

Description Numerical and analytical development of coagulation algorithms for the very first planet formation stages.

M.Sc. thesis *Astrophysical validation of Gaia parallaxes*

Supervisor Prof. Dr. Lennart Lindegren and Dr. David Hobbs

Description A numerical Monte Carlo study on how well Galactic variable stars can be used to verify the stellar distance measurements of the new Gaia satellite.

B.Sc. thesis *Can the exoplanetary orbits be explained with planet-planet scattering?*

Advisor Prof. Dr. Melvyn Davies

Description A semi-analytical study to understand the orbital characteristics of the exoplanetary systems dominated by gravitational scattering.

Publications

E. Sellentin, J.P. Ramsey, **F. Windmark**, C.P. Dullemond: *A quantification of hydrodynamical effects on protoplanetary dust growth*. *A&A* (2013), vol 560, A96.

J. Drazkowska, **F. Windmark**, C.P. Dullemond: *Planetesimal formation via sweep-up growth at the inner edge of dead zones*. *A&A* (2013), vol 556, A37.

F. Windmark, T. Birnstiel, C.W. Ormel, C.P. Dullemond: *Breaking through: The effects of a velocity distribution on barriers to dust growth*. *A&A* (2012), vol 544, L16.

F. Windmark, T. Birnstiel, C. Güttler, J. Blum, C.P. Dullemond, Th. Henning: *Planetesimal formation by sweep-up: How the bouncing barrier can be beneficial to growth*. *A&A* (2012), vol 540, A73

F. Windmark, L. Lindegren, D. Hobbs: *Using Galactic Cepheids to verify Gaia parallaxes*. *A&A* (2011), vol 530, A76.

Awards & Fellowships

2010-2013 Member of the International Max-Planck Research School (IMPRS), Heidelberg

- 2005 Top Achiever Award – High School
- 2002 Top Achiever Award – Junior High School

Computer skills

- Advanced Matlab, Fortran, Latex, Microsoft Windows
- Intermediate Mac OS X, Unix, CSS & HTML, Microsoft Office, Adobe Photoshop, Git (version control)
- Basic Java and code testing with jUnit, Adobe Illustrator

A selection of talks and presentations

- Talks Visitor colloquium, Lund, Sweden 2013
- Planet Formation and Evolution, Munich, Germany, 2012
- Origin of Stars and their Planetary Systems, Hamilton, Canada, 2012
- Visitor colloquium, UC Berkeley, USA, 2012
- Visitor colloquium, NASA Ames, USA, 2012
- Blackboard colloquium, Heidelberg, Germany, 2012
- Posters Protostars and Planets VI, Heidelberg, Germany, 2013
- European Planetary Science Congress, Nantes, France, 2011
- Swedish Astronomers' Days, Gothenburg, Sweden, 2011

Languages

- Swedish Mother tongue
- English Fluent
- German Moderate
- French Minor

Interests

- Fiction writing
- Roleplaying
- Running
- Boardgaming
- Painting

Miscellaneous

- 2010-2013 Founder and organizer of Happy Tuesdays, a local gaming club in Heidelberg
- 2009-2010 Co-founder and organizer of TROLL, a local gaming club in Lund
- 2008-2009 Co-founder and organizer of ALVA, a local students' astronomy club in Lund
- 2001-2009 Co-founder and organizer of Henåns Rollspelsklubb, a local gaming club in Henån
- 2004 Finalist in a national short-story contest for high school students
- 2004 Driver's license