Curriculum Vitae

Name: Mattias Ergon
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Civil status: Not married

Education

High school, Natural science programme, 1986.
Master of Science in Physics at Stockholm University, 1995.
Master level studies in Astronomy at Stockholm University, 2008-2009.
PhD in Astronomy at Stockholm University, planned dissertation date 2015-03-15.

Jobs

Software engineer and configuration manager at Teligent AB, 1995-2008.

Experience within the field

Observations

I have been observing on-site with the Nordic Optical Telescope (NOT) at La Palma and a number of times with the NTT at La Silla on behalf of the NTT Large and PESSTO programs. In addition I have been running the Stockholm remote target-of-opportunity (TOO) program at the NOT between 2009 and 2012, for which I also developed a series of observing scripts to automate the procedure.

Data reductions

I have reduced several large datasets (e.g. that for SN 2011dh; Paper II and IV) spanning both the optical and the near-infrared (NIR), include both imaging and spectroscopy and also ultra-violet (UV) and mid-infrared (MIR) imaging obtained with SWIFT/UVOT and Spitzer. As part of this work I have also developed an IRAF based reduction pipeline. In Paper II and IV much effort was spent on the photometric calibration, and in particular this required S-corrections (Stritzinger et al. 2002) to be determined for each telescope/instrument using the observed spectral sequence and the filter response functions (see Paper II).

Instrumentation

Although I was not deeply involved, I have been a member of the James Webb Mid Infra-Red Instrument (MIRI) test-team, and have participated in the tests of this instrument at the Rutherford Appleton Laboratory (RAL).

Computer programming

As mentioned above I am a computer programmer by profession, which have been a great benefit during my PhD. I usually work in C or C++, but I am is also well acquainted with Python and Unix/Linux shell programming.

Modelling

During my PhD I have developed a Monte-Carlo radiative transfer code (Paper II), aimed for spectral modelling and based on the method outlined in Mazzali & Lucy (1993), and the hydrodynamical code HYDE (Paper IV and VI), aimed for bolometric lightcurve modelling and based on the method outlined in Falk & Arnett (1977). Although not an expert, I'm also acquainted with stellar evolutionary modelling, and in particular with the public stellar evolutionary code MESA and how to use is to evolve SN progenitor models.