

Curriculum Vitae

MATTEO CANTIELLO

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Position

Ph.D. Astrophysics, Utrecht University

I am currently studying Gamma Ray Bursts (GRB) progenitors by the analysis of evolutionary models of single massive stars including rotation and magnetic fields; these kind of stars may undergo chemically homogenous evolution, that is a peculiar condition in which the interior of the star is well mixed by the rotationally induced circulation.

Our group is also studying the evolution of the circumstellar medium outside these possible GRB progenitors using fluidynamics simulations. I am currently working under the supervision of Prof. N. Langer and in collaboration with S.C.Yoon.

Education

M.S. Astrophysics, University of Pisa, October 2005

Thesis “*Large and small scale structure of the ISM toward the Orion OB1 association*”

Advisor Prof. S.N.Shore

B.S. Physics, University of Pisa, March 2003

Thesis “*Observation of Extrasolar Planets*”

Advisor Dott.ssa R.Poggiani

A.A. Scientific High School “E.Fermi”, Cecina

Fields of interest

- **Astrophysics**

- **Long GRB Progenitors**

Currently studying a possible model for Long GRB progenitors. We evolve fast rotating high mass stars at low metallicity and find that some of these stars are evolving, depending on their initial parameters (M, Z, V_{Rot}) , chemically homogeneous. Some of these stars can retain enough angular momentum at the end of their WR phase to fit the Woosley conditions to become a GRB. Our evolutionary code is taking into account the effects of magnetic fields and of rotation.

- **Interstellar Medium Dynamics**

Master degree thesis “*Large and small scale structure of the ISM toward the Orion OB1 association*”.

Working with IUE and GHRS/STIS spectra to analyze the ISM toward the Orion region, in particular the absorption toward different line of sights due to the expanding shell blown by the OB association.

- **Star formation**

Triggered star formation.

- **Extrasolar planets**

Bachelor degree thesis “*Observation of Extrasolar Planets*”.

Statistical analysis of the properties of known extrasolar planetary systems and correlation with metallicity.

- **Geophysics and Meteorology**

Great interest in **Fluid Dynamics** applied to earth science problems.

Computer science skills

Operative systems:

- Windows
- Linux
- DOS

Program languages and data manipulating:

- C
- Fortran

- IRAF
- IDL
- Mathematica

Word processor:

- L^AT_EX
- Word

Languages

- **Italian:** native
- **English:** fluent
- **French:** proficient.

Interests, sports and attitudes

- **Interests:** I love science and philosophy. I am a traveller and I like learning new languages. Also like Photography, Poetry and Web Art. I have an outstanding passion for Music and I play electric guitar in a band.
- **Sports:** great enthusiasm for sport since ever, mainly athletics, soccer, horseback riding, martial arts, ski and rollerblades.
- **Attitudes:** love for learning and for new experiences; very high social attitude. Active, enthusiast.