

## Solar Physics in The Netherlands — 1997

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Solar physics research in the Netherlands is carried out at Utrecht, Nieuwegein and Noordwijk.

At the *Sterrekundig Instituut Utrecht* solar physics is currently done by Rob Rutten with graduate student Mandy Hagenaar (in close collaboration with Karel Schrijver at the Lockheed-Martin Palo Alto Research Laboratories), by Bert van den Oord (postdoc) with Max Kuperus and graduate student Nick Schutgens, and by Jan Kuijpers with students. Kees Zwaan (emeritus) remains active as well.

Kostas Tziotziou (supervised by Tony Hearn) and Nick Hoekzema (supervised by Rob Rutten) graduated during 1997.

Current interests include granular and magnetic patterning (Rutten, Hagenaar), chromospheric dynamics (Rutten), prominences (Zwaan, Kuijpers, Schutgens and Kuperus), loop diagnostics (van den Oord), and magnetic activity (Zwaan).

Rob Hammerschlag, with coworkers Felix Bettonvil and Piet Hoogendoorn, spent most of 1997 on La Palma completing his 45 cm open telescope, now named the *Dutch Open Telescope* (DOT). It had a very official First Light Ceremony on October 31, performed jointly by the Dutch Crown Prince (His Royal Highness Willem-Alexander) and the President of the Canary Islands (Manuel Hermoso Rojas), in the presence of many dignitaries from The Netherlands and Spain including the Dutch minister of education and sciences, the chairman of the Dutch Science Foundation NWO, the director and the chairman of the Dutch astronomy research foundation ASTRON/NFRA, the director of the Dutch foundation for technological sciences STW, and the Director-General of the Spanish IAC Prof. F. Sánchez. JOSO representatives were Prof. G. Scharmer (director of the SVST and president of the CCI), Prof. O. von der Lühe (director of the KIS at Freiburg), Dr. V. Martinez Pillet (IAC contact scientist for the solar telescopes on the Canary Islands) and Dr. Jean Arnaud (THEMIS project scientist).

The actual highlight of the DOT “first-light period” came a few weeks later, when the first images of good quality were taken. A sample is found at URL <http://www.fys.ruu.nl/~rutten/dot>. The current equipment consists of a simple technology-demonstration setup, consisting of reimaging optics behind the prime focus heat-stop (a reflective water-cooled diaphragm), a simple video CCD, and an analog optical link to a frame grabber in a PC located in the SVST building from which the DOT will be operated. Not only does the DOT team enjoy splendid hospitality at the SVST but Prof. Scharmer has also played a key role in the optics optimization effort that led to high-quality images so soon after first light. These now figure prominently in applications to obtain funding for solar physics utilization of the DOT. The first goal is to make the DOT an efficient high-resolution imager in the G-band, Ca IIK and H $\alpha$  in support of SOHO and TRACE.

Another 1997 highlight was the successful application for an EU-TMR Network grant on solar magnetometry. Eight solar physics groups (at Utrecht, Oslo, Stockholm, Potsdam, Estec, Meudon, Naples and La Laguna) will get 1.3 million ECU to spend on postdoc salaries, joint observing campaigns and meetings during the coming four years. More information at <http://www.fys.ruu.nl/~rutten>.

At the *Utrecht Space Research Institute*, a non-University institute funded by the Dutch science foundation NWO, partial interests in solar physics are retained by Peter Hoyng (dynamo theory), Rolf Mewe and Jelle Kaastra (plasma diagnostics).

At the *Institute for Plasmaphysics* at Nieuwegein (also non-University and funded by NWO) Hans Goedbloed leads a plasma physics group that in 1997 included Rony Keppens and Sander Belien (postdocs) and graduate students Bart van der Holst and Ronald Nijboer. The group concentrates on MHD of laboratory and astrophysical plasmas. Comparison between the two leads to fruitful analogies and new applications, like resonant heating of coronal plasmas with “line-tying”, MHD spectroscopy, waves in rotating plasmas, break-up of resonant layers by Kelvin-Helmholtz instabilities. In addition, there are efforts in parallel computing techniques and plasma dynamics visualization.

At *ESTEC* (Noordwijk) there is an international (and rather transient) ESA solar physics group that is involved, among other projects, in SOHO and Ulysses. In 1997 the group at ESTEC consisted of Martin Huber

(head ESA Space Science Department), Peter Wenzel (head of the Solar System Division; Ulysses data), Bernard Foing (solar and stellar spectroscopy), Thierry Appourchaux (helioseismology, SOHO), Richard Marsden (Ulysses), Trevor Sanderson (Ulysses), Lyndsay Fletcher (research fellow; flares, SOHO data), Karin Muglach (research fellow; chromospheric fields and dynamics, SOHO/GCT+VTT data) Mihir Desai (research fellow; CIR's, Ulysses data). Salvatore Orlando (research fellow; Coronal Loops, SOHO/Yohkoh data) Milan Maksimovic (research fellow; Solar Wind, Ulysses data) David Lario (research Fellow; Ion acceleration, Ulysses data)

Finally, the *SOHO Project Scientist Team* consisting of Vicente Domingo (SOHO Project Scientist; irradiance variations), Luis Sanchez (SOHO Science Data Coordinator; helioseismology), Bernard Fleck (SOHO Deputy Project Scientist; chromospheric oscillations) and Piet Martens (SOHO Science Operations Coordinator; coronal heating and flares) currently resides at Goddard.