

(This "letter of reference" was written by SUMER Principal Investigators Dr. Werner Curdt and Dr. Klaus Wilhelm. It was edited and approved by the Directorate of the Max Planck Institute and signed by the Head of Administration, Mr. Andreas Poprawa. - Translation by myself.)

**MPAE, Max Planck Institute for Aeronomy
(now: MPS, Max Planck Institute for Solar System Research)
Katlenburg- Lindau, Germany**

26 June 2003

Letter of Reference

Mr. I. E. Dammasch, born 29 October 1950 in Cuxhaven, was employed at the Max Planck Institute for Aeronomy, with interruptions, during the time from 01 April 1989 to 30 April 2003. As a "diploma mathematician" (German university degree, roughly equivalent to a Master of Science, M.S., in mathematics), he worked in the project group SUMER.

SUMER is a spectrometer on the ESA/NASA space probe SOHO (Solar and Heliospheric Observatory) that has observed the Sun since 1995 in the extreme ultraviolet wavelength range (EUV) of the electromagnetic spectrum.

As a mathematician, Mr. Dammasch initially - i. e. during the preparation and development phase of the SUMER instrument from 1989 to 1995 - worked together with the project's international partners for the creation of flight software, the development of compression algorithms for data reduction, the simulation of future SUMER data using older observations, the definition of telemetry formats, the test of flight software with industry contractors, and the test of decompression software. His contributions were substantial for the successful completion of SUMER's development in the software area and enabled the smooth operation of SUMER after the start of SOHO.

Within this time, Mr. Dammasch participated in several meetings in England with the team of the companion instrument CDS on SOHO, in order to prepare data analysis. He conducted the documentation of flight software and telemetry formats, accomplished the preparatory work for a SUMER instrument simulator, and developed SUMER web pages (instrument description and information about the SUMER team).

In the time between 1995 and 1998, Mr. Dammasch worked - partly at NASA's Goddard Space Flight Center (GSFC), SOHO's mission control center - for the completion of the simulator; then he increasingly conducted data visualization - of intensities as well as plasma flows - from the obtained solar observations, using self-devised and complicated image processing techniques, and he developed the concept for a data catalogue.

The compilation of SUMER internet pages (including first results) was continued at MPAE and GFSC, and carried on until March 2003.

Furthermore, within the scope of his duties, he participated in first scientific

publications of SUMER results, particularly about investigations of solar EUV irradiances on the Earth.

In 1998, as a result of his previous contributions, Mr. Dammasch was invited, by decision of the international group of investigators, to join the project as "SUMER Associate Scientist". Since then, he has participated in a multitude of scientific activities within the scope of his duties.

Furthermore it should be mentioned that Mr. Dammasch discovered the logarithmic-normal distribution of radiance variations in spectral lines and the oscillations of line shifts following chromospheric eruptions. In addition, he deduced wavelength measurements of highly ionized elements from solar observations which are more accurate than comparable laboratory measurements.

Mr. Dammasch also developed exhibitions for public outreach (posters, NASA or MPG press releases) and prepared a SUMER image atlas during the last years.

Within the scope of his scientific orientation, Mr. Dammasch possesses extensive and diverse knowledge that he applied in practice reliably and goal-oriented at all times.

Mr. Dammasch identified with his duties, worked successfully for our institute, even beyond regular working hours, and accepted additional responsibilities if required.

Mr. Dammasch accomplished his work predominantly in English that he speaks and writes fluently.

Mr. Dammasch always proceeded in an extremely systematical and target-oriented way. He always convinced with his very high reliability.

Mr. Dammasch got along well with management and colleagues at the institute and always met them with his friendly and respectful manner.

The collaboration with members of the international SUMER team was excellent at all times, which is attested by many positive comments.

We were always and in every sense highly pleased with his performances.

The work contract was temporary from the beginning and ends due to expiration.

Since the orientation of the institute will be directed towards different priorities and the SUMER group will not be continued after the retirement of relevant scientists, we regret that we cannot continue to employ Mr. Dammasch; we thank him for his collaboration and wish him all the best for his future and success further on.