

In Memoriam: Takeo Kosugi

Published online: 13 September 2007
© Springer Science+Business Media B.V. 2007



Takeo Kosugi (1949–2006)

Takeo Kosugi, project manager of the *Hinode* mission, died suddenly on 26 November 2006, from a cerebral infarction. He was 57 years old.

Takeo was born in 1949 in Toyohashi city near Nagoya. After graduating from the University of Tokyo in 1972 he proceeded to the graduate course in astronomy there, and in

1976, while he was in the Ph.D. course, he was appointed as research associate at the Nobeyama Solar Radio Observatory of the Tokyo Astronomical Observatory, the University of Tokyo.

His initial research activities were based at Nobeyama where the main facilities were a two-dimensional interferometer (but with separate E–W and N–S systems) at 160 MHz and a 17 GHz interferometer. With his senior colleagues, Hiroshi Nakajima and the late Keizo Kai, he participated in building an opto-acoustic spectrometer and in upgrading the 17 GHz interferometer. He completed his Ph.D. thesis in 1984 on the directivity of radio emission from solar flares using the 17 GHz data.

When the Astro-A (*Hinotori*) satellite was launched in 1981, he applied his radio-astronomy skills, namely image synthesis based on CLEAN, to hard X-ray imaging. This was the beginning of his involvement in space solar astronomy. In the 1980s a plan for building a dedicated solar array at microwave frequencies emerged in the Japanese solar radio-astronomy community, and he was a key member in its initial phase. Eventually, the project materialized as the Nobeyama Radioheliograph, with first light in 1992, but his main field had shifted to the space program. In 1988 he was promoted to associate professor, and in 1992 he moved to the National Astronomical Observatory of Japan as professor.

When the Solar-A satellite program began, he joined the team for a hard X-ray telescope (HXT), and later he was appointed principal investigator for HXT. Solar-A was renamed *Yohkoh* after its launch in 1991, and the combination of HXT with a soft X-ray telescope (SXT) and an X-ray spectrometer (BCS) led to a very successful mission. In particular, the discovery of a new type of coronal hard X-ray source with S. Masuda, then a student of Takeo, opened an important avenue in studying particle acceleration in solar flares. He also assisted the *Yohkoh* project manager Yoshiaki Ogawara, and he himself served as project manager since 1998, in operating the *Yohkoh* satellite until its reentry into the atmosphere in 2005.

When the next solar mission, Solar-B, was approved, he moved to ISAS (the Institute of Space and Astronautical Science, which later became ISAS/JAXA), to take the role of project manager in 1998. The satellite was successfully launched on 23 September 2006, and was given the name *Hinode* (Sunrise) by him. His face – full of joy and confidence at the press conference just after launch – was remembered by all who participated in the Solar-B project. The press release with the initial scientific data from the optical telescope (SOT) onboard *Hinode* took place on 27 November, but he had passed away suddenly on the previous day. Accumulation of fatigue from his stressful life might have been a contributing factor.

His talent in organizing a large number of people and in leading a big project was extraordinary, and therefore he had been actively involved in many international as well as Japanese organizations, including COSPAR, the International Living with a Star program, CAWSES, and IHY. He was science director of ISAS/JAXA from October 2005 and had been a member of numerous committees. He had wide media exposure and served as spokesperson of solar and space physics. He had been recording an educational lecture for television on 24 November and collapsed late at night after returning home.

He is survived by his wife Kikuko, by two sons and a daughter, and by *Hinode*.

5 March 2007
Takashi Sakurai
Taro Sakao
Hugh S. Hudson