Journal of Non-Crystalline Solids 358 (2012) 1943

Contents lists available at SciVerse ScienceDirect

Journal of Non-Crystalline Solids

journal homepage: www.elsevier.com/ locate/ jnoncrysol

Josef Stuke 1918–2010

On March 25th 2010, Prof. Josef Stuke passed away peacefully in his home in Marburg. With him, the community of amorphous semiconductors loses one of their pioneers and a scientist of the first hours of our field.

Josef Stuke was born on May 26th in Lastrup (Germany) and studied physics at the Technische Universität Hannover from 1941 to 1944. In 1944 he became a PhD student at the famous I. Physikalische Institut of Prof. Robert Pohl at the University of Göttingen. He received his PhD in 1947 with a thesis entitled "*Zur Eigenleitung elektronischer Halbleiter*" ("*About intrinsic conductivity of electronic semiconductors*"). During his thesis work in the challenging times of World War II Josef Stuke, by the characteristic temperature dependence of the intrinsic conductivity, was able to demonstrate that Germanium actually was a semiconductor, and not a metal, as everybody else firmly believed in these days, including Stuke's PhD advisor, Prof. Pohl, who did not allow Josef Stuke to publish this "incredible" result in a scientific journal. Instead, the fundamental properties of Ge as a semiconductor were first published in 1946 by Karl Lark-Horovitz and coworkers at Purdue University in a series of abstracts submitted to the 1945 Annual Meeting of the American Physical Society at New York and were instrumental for the invention of the transistor in 1947. The fact that Josef Stuke's original contribution to this important development remains unknown and unrecognized by the international science community caused him some personal chagrin for the rest of his life.

Nevertheless, Josef Stuke went on with his scientific career, first as a staff scientist in several industrial companies, and from 1962 back in academic research at the Technische Universität Karlsruhe, where he completed his habilitation in 1964 with investigations of the electronic properties of trigonal Selenium, a topic which had interested him since the early fifties. During the course of this work, he also came across amorphous Se and Te and published a series of fundamental papers about the optical and electronic properties of these model disordered semiconductors. In recognition of these scientific achievements, Stuke received a call as Chair of Experimental Physics II at Philipps-Universität Marburg in 1967. In this position, he was a central figure and instrumental for the establishment of broad research activities in the field of amorphous and disordered semiconductors, from which many German scientists still active in this or other fields have emerged. The scientific interest of Josef Stuke during his time in Marburg quickly shifted from amorphous Se or Te to hydrogenated amorphous Si, Ge and related alloys. Over the years, Stuke and his coworkers were able to make many important contributions to fundamental issues of electronic transport, recombination, doping, alloying, and metastability in this "new" class of semiconducting materials. This work was also recognized quickly by eminent scientists in the field such as Walter Spear and Sir Neville Mott, who became frequent guests and personal friends in the Stuke labs at the Renthof in Marburg.

When Josef Stuke had to retire in 1983, he actually was at the peak of his scientific career. In 1982/83 he was honored with the Walter Schottky Visiting Professorship at Stanford University, spending much of his time also at the Xerox Palo Alto Research Laboratories next door. In 1985, he served as Co-Editor of the Proceedings for ICANS 11 in Rome. In 1986, he received the prestigious Max-Born-Prize of the German Physical Society and The Institute of Physics (UK). His last public appearance in our community was as the Mott Lecturer of the ICALS 12 in Prague 1987. Since then, Josef Stuke led a rather secluded life at his private home in Marburg, many years taking care of his wife Anne during her long illness, but always happy to receive a phone call or a visitor and to hear about the latest news in "his" field of research.

Martin Stutzmann
Walter Schottky Institut und Physik-Department Technische, Universität München Am Coulombwall 4, 85748 Garching, Germany
Tel.: +49 89 28912760; fax: +49 89 28912737.
E-mail address: stutz@wsi.tum.de.

doi:10.1016/j.jnoncrysol.2011.10.007