

HANS-JÜRGEN TREDER (1928-2006)

Hans-Jürgen Treder died on November 18.2006 in Potsdam, Germany, after a distinguished career as a scientist, administrator and educator. He made many important contributions to theoretical physics, relativity, gravitation, and geo- and cosmical physics.

Treder, born February 4.1928 in Berlin, studied mathematics and physics in Berlin. In 1956 he became Ph. D. and then moved to the Institute of Mathematics of the German Academy of Sciences in Berlin. Later on becoming director, he was elected Fellow of the German Academy of Sciences in 1966 and became chairman of the "Forschungsbereich Kosmische Physik, Research Council of Cosmical Physics" of the Academy in 1968. In that time he also was director of the Observatory of Babelsberg, a well-known old astronomical research institute. From 1982 on he was director of the "Einstein Laboratory of Theoretical Physics" of the Academy, and editor in general of the well-known "Annalen der Physik". During his scientific work he was influenced by the internationally well-known hydrodynamicist Hans Ertel and also by Robert Rompe, Max Steenbeck, Nobel Laureate Gustav Hertz, all members of the Academy. With his friend Wolfgang Yourgrau he was a founder of the well-known journal "Foundations of Physics" and editor of "Gerlands Beiträge zur Geophysik", "Astronomische Nachrichten" and others.

According to the decision of the Academy he organized the international Einstein-Conferences in 1956 and 1979 in Berlin, which made it possible for him to get into contact with all leading scientists in this field (e.g. Rosenfeld, Møller, Fock, Janossy, Kawaguchi, Wigner, Bergmann, and others). Treder also became a member of the editorial board of "Tensor". In 2000 he became chairman of the "Society for History of Geophysics and Cosmical Physics". In this capacity he organized some scientific meetings at his home in Potsdam.

From the beginning of his career Treder was interested in all aspects of "Einstein's physics". He made fundamental contributions to theoretical physics, gravitation, relativity, the gravitation field theory in unified quantum field, the Einstein-Bohr-experiment, global and local principles of relativity, to the meaning of the Einstein- and the Lorentz-covariant derivatives, the Boltzmann equations, the Ertel potential vorticity theorem, to some effects connected with Einstein's principle of equivalence, the anti-matter and the particle-problem in Einstein's cosmology and field theory of elementary particles, the Einstein-shift in Einstein's box experiment, gravitation and universal Fermi coupling in general relativity, to the signatures of the canonical and the metrical energy densities of vector fields, to gravitational shock waves, (partly with Wolfgang Yourgrau), to self-gravitation, to the problem of physical meaning of quantization of gravitation, the Mach-Einstein doctrine (partly with Wilfried Schröder), the Boltzmann equations (with Wilfried Schröder) the generalization and application of Ertel's potential vorticity theorem (with Wilfried Schröder, and Einstein and Geophysics (in a paper in "Tensor" and as a book with Wilfried

Schröder) and many other aspects, also to cosmology, geophysical hydrodynamics, and astronomy. His broad interest and his knowledge in many scientific disciplines, such philosophy, history of science, geophysics, and astronomy gave him the singular chance to work in various fields.

Needless to say that Treder has played a great role in compiling the papers of Einstein, because many documents are in the Central Archive of the Academy. Treder published the well-known book "Einstein in Berlin", he introduced the letter and elections document books for physicists of the Academy, and gave a survey of the in history of physics in his book "Great physicists" (in German).

For many years he was a good friend of Professor Kawaguchi's, and he has invited him to the Einstein ceremony in 1979 of the Academy of Sciences in Berlin. Later, Treder and I often published papers in "Tensor" because of its international reputation. We both were proud to be a member in this well-known Tensor-Society and very grateful to Prof. Kawaguchi and his family.

He also was co-editor of the "Collected Works of Hans Ertel", 1993-2006. His active role in the Einstein Congress in Berlin gave him the chance for international cooperation.

He initiated the reconstruction of the Einstein House in Caputh which became an international house for congresses and meetings. Nobel Laureate Hannes Alfvén, Prof. Kawaguchi, Arthur Kaestler, Carl Friedrich von Weizsäcker and many other leading scientists were guests in this house.

For his long work Treder was awarded many prizes and medals, during the Einstein years by the Academy of Sciences and other scientific organizations.

Hans-Jürgen Treder's has been a life of fulfillment. Those of us who have known him well will truly miss him.

Wilfried Schröder