

**Prof. Michiel van der Klis** (9 June 1953)

Astronomy

Current position

Full Professor of Astronomy at the University of Amsterdam

Director of the Astronomical Institute “Anton Pannekoek”

Professor Michiel van der Klis has been awarded an Academy Professorship for his work in the field High Energy Astrophysics, in which he has been active for the past thirty years. The research of Michiel van der Klis concerns the physics of neutron stars and black holes. The aim of his research is to obtain quantitative information on the physical state of these objects, by studying the masses, radii, spin rates and magnetic fields of neutron stars, the masses and spins of stellar-mass black holes and the relativity phenomena occurring in the close ground-based radio and optical telescopes. His research achievements earned him a high international reputation.

Van der Klis made a number of breakthrough discoveries. In 1984 he discovered the first type of Quasi Periodic Oscillations (QPOs) of the X-ray emission of compact stars when he was working with ESA’s EXOSAT satellite to study the strongest X-ray sources near the centre of our Galaxy. Van der Klis studies in the years 1984-1987 clarified the classification of several hundreds of strong X-ray sources in our Galaxy. In the 1990s, he and his research group discovered the first millisecond X-ray pulsar in a binary system, a neutron star that is spinning around its axis more than 400 times per second. The discovery of this superfast spinning neutron star attracted great international attention apart from publication in the journals *Nature* and *Science*, or media such as CNN and reports in *The Economist* and *The New York Times*.

His discoveries have had an enormous impact in his field of research; in effect, they have made it what it is today. He gained world-wide fame in the 1980s with his investigation of (QPOs). He has received a number of prestigious awards for his pioneering research, including the Bruno Rossi Prize (1987), the most important international distinction awarded in high-energy astrophysics, and the Spinoza Prize (2004).

Prof. Van der Klis has pioneered special mathematical analysis techniques that are now regarded as the “gold standard” within his discipline. He has authored an impressive list of publications, many of which have appeared in such leading journals as *Science* and *Nature*. Van der Klis is a scientist of international repute, a pioneer, and a source of inspiration. He has supervised numerous graduate students and post-docs, many of whom have now gained international renown in their own right. His research plans are highly innovative. As an Academy Professor, he is expected to make a major contribution to astrophysics research.