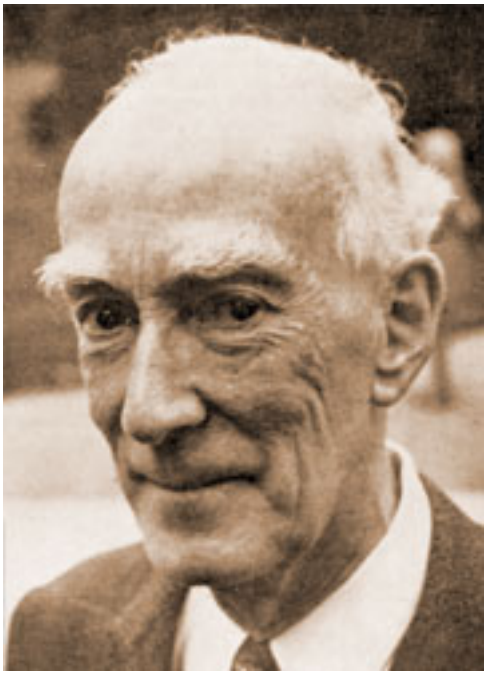
Prof. Jan Hendrik Oort
Professor of Astronomy, Sterrewacht, University of Leiden, Belgium



Summary of scientific research

My scientific research has been principally concerned with the structure and dynamics of our Galaxy. Landmarks were the investigations on stars of high velocity, the confirmation of Lindblad's hypothesis of the rotation of the Galaxy by the discovery of the differential galactic rotation, the determination of the mass density in the general vicinity of the Sun, the exploration of the Galaxy with the aid of the emission line at 21-cm wavelength (together with Van de Hulst and Muller); tha anomalous motions of the gas near the galactic centre; infall of gas from the galactic halo.
Other investigations were concerned with: (a) the polarization of the light emitted by the Crab nebula which established that a major part of its radiation is so-called synchrotron radiation; (b) the study of explosive phenomena in the nuclei of galaxies (in particular the Galactic nucleus and the remarkable phenoma in the spiral NGC 4285 (together with Van der Kruit and Mathewson); (c) the large cloud of comets surrounding their solar system; (d) the spatial distribution of galaxies, in particular the largest structural elements in the Universe (the superclusters) and their origin.