

**Tagung des Arbeitskreises Astronomiegeschichte  
in der Astronomischen Gesellschaft**

***Kometen, Sterne, Galaxien -  
Astronomie in der Hamburger Sternwarte***

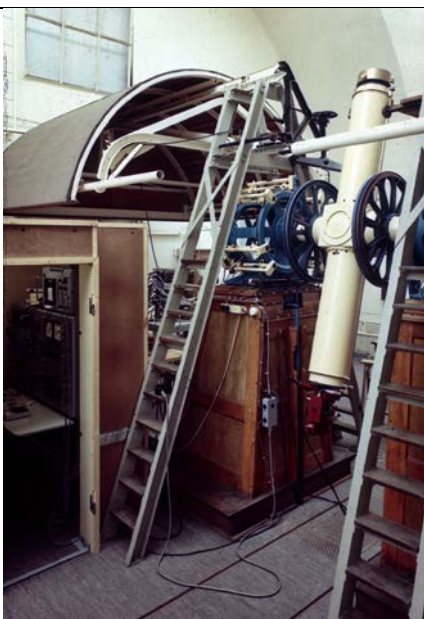
**Hamburg, 23.-24. September 2012**

**Astrometry 1960-80: from Hamburg to Hipparcos**

Erik Høg

Niels Bohr Institute, Copenhagen University, Denmark

A modest astrometric experiment in Copenhagen in 1925 led to the Hipparcos and Gaia space astrometry missions. Astrophysicists need accurate **positions, distances and motions of stars** in order to understand the evolution of stars and the universe. **Astrometry** provides such information, but this old branch of astronomy was facing extinction during much of the 20<sup>th</sup> century in the competition with astrophysics. The direction forward was shown by observations at the Copenhagen Observatory in 1925 with a new technique: **photoelectric astrometry**. Digital techniques were introduced in photoelectric astrometry at the Hamburg Observatory in the 1960s by the present author. This development paved the way for space technology as pioneered in France and implemented in the European satellite **Hipparcos** approved in 1980.



The photoelectric Hamburg meridian circle in 1966. The instrument achieved unique accuracy and efficiency for its time. It was semi automatic with manual setting of the telescope and digital recording on 8-channel punched tape of star observation and circle readings.

The five years 1967-72 in Perth, Western Australia, gave the Perth 70 catalogue of positions of 24900 stars based on over 400 nights with observations of typically 220 program stars and 40 FK4 reference stars, in addition to observations of nadir and meridian marks.