Biographical Encyclopedia of Astronomers

Clausen, Thomas

Born Snogbaek, Denmark, 16 January 1801

Died Dorpat (Tartu, Estonia), 23 May 1885

Thomas Clausen was a specialist in the field of celestial mechanics and directed the Tartu Observatory (1865–1872). He was born into a poor family. At the age of 12, Clausen was sent to look after the cattle of a local priest. Father G. Holst discovered outstanding intellectual abilities in the boy and taught him Latin, Greek, mathematics, and astronomy. His later education was self-acquired. In 1823, Holst introduced Clausen to Heinrich Schumacher, director of the Altona Observatory and the founding editor of the Astronomische Nachrichten. Clausen handed Schumacher a manuscript describing a method of measuring geographic longitudes by timing occultations of stars by the Moon. Clausen's work was of high quality, and he became an assistant at Altona Observatory in 1824

Four years later, Clausen succeeded Joseph von Fraunhofer at the Optical Institute in Munich. His position, however, carried few specific duties, and he was left alone to undertake research in astronomy and mathematics. In 1842, he was invited by Johann von Mädler to become the astronomer at Tartu Observatory. There, Clausen's post was officially named astronomer-observer, but in reality he conducted only limited observations. These were determinations of stellar positions

(adopted from a star catalog by James Bradley) that were later used by Mädler to calculate the proper motions of stars. For most of the time, Clausen was engaged in theoretical research. Upon Mädler's retirement in 1865, Clausen succeeded him as director of the observatory and professor of astronomy. Clausen himself retired in 1872 and afterward lived quietly in Tartu

Clausen published numerous papers on celestial mechanics and practical astronomy, as well as on pure and applied mathematics. He calculated the orbital elements of 14 comets and presented the concept of cometary families. His work on the orbit of comet D/1770 (Lexell), one of the closest approaches to the record of a comet to Earth, won him a prize from the Copenhagen Academy. About Clausen's work, Friedrich Bessel wrote, "What a magnificent, or rather, masterful work! It is an achievement of our time which our descendants will not fail to credit him with." In mathematics, Clausen presented a new definition of the lemniscate and proved several new theorems. He was the first (in 1849) to solve the so-called Lagrange problem. Clausen calculated the number π to 250 digits

Despite his lack of formal education, Clausen was awarded an honorary doctorate from Königsberg University (1844), made an honorary member of the Royal Astronomical Society (1848), and a corresponding member of the Göttingen Scientific Society (1856). That same year, he became a corresponding member of the Saint Petersburg Academy of Sciences. Clausen was offered, but refused, the title of full academician because it would have required him to relocate to Saint Petersburg.

Mihkel Joeveer

Selected References

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