



Solar wind, auroras and comets during the Maunder-minimum

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The paper discussed briefly the occurrence of auroras and comets and variations in the strength of the solar wind, during the period of 1645 to 1715, often termed as the “Maunder-Minimum” because of the perceived quietness of the Sun during this period. However, a more careful examination of all the available observations of these phenomena reveals regular cyclic activity of the Sun throughout this interval.

The work of Eddy (1976) on solar activity during the period 1645-1715, based mainly on a supposed lack of auroral observations, appeared to indicate an abnormally quiet Sun. However, Schröder (1979) was able to show by examining historical archive material that Eddy’s assumptions were not correct and that aurora were reported in nearly all years of Maunder-Minimum. As these are associated with solar activity, he concluded that the Sun was regularly active during this period. This situation was later confirmed by Gleissberg and Landsberg (1980) and further amplified by Schröder (1988, 1992).

Further evidence of the cyclic activity of the Sun can be adduced from the observations of comets which are best observed during periods of high solar activity (Mucke 1976). During the Maunder-Minimum epoch many comets were observed with excellent development of the tail, and were sometimes observed over periods of several weeks. Their appearance can be regarded as confirmation of an active Sun, with an associated enhanced solar wind.

When all this evidence is put together and analysed we conclude that during the so called Maunder-Minimum, normal variations of solar activity with regular solar cycles, did in fact occur. The importance of examining all evidence, including contem-

porary archival materials sometimes of an anecdotal nature, of a range of spectacular optical phenomena, is stressed.