## **History of Sunspot Research**

4 <sup>th</sup> c. BC	Possible description of sunspots in Chinese records
325 BC	Theophrastus notes spots on the Sun
165 BC	Chinese begin sporadic record of sunspot observations
Dec 22, 968	Leo Diaconus observes solar corona during eclipse
May 1, 1185	Possible description of solar prominence during eclipse in Russian <i>Chronicle of</i> Novgorod
1607	Johannes Kepler misinterprets a sunspot as the passage of Mercury across the face of the Sun
1610	Galileo and others observe sunspots
1645-1715	Maunder minimum
1843	Samuel Heinrich Schwabe identifies sunspot cycle
1848	Rudolf Wolf devises method to quantify sunspot activity
Sept 1, 1859	Richard Carrington observes solar flares
July 18, 1860	Drawing of solar corona during eclipse shows a coronal mass ejection
1861	F.G.W. Spörer discovers sunspot latitude pattern during sunspot cycle (The Butterfly Diagram)
1863	Carrington discovers differential solar rotation
1892	George Hale observes flares by viewing only red light
1893	Edward Maunder identifies period of infrequent sunspots "The Maunder Minimum"
1908	Hale shows sunspots are associated with intense magnetic fields
1925	Hale and Nicholson identify magnetic cycle
1942	Bengt Edlen finds the corona has high temperatures
1961	H. Babcock proposes theory of magnetic coiling for sunspot formation
1966	22-year solar magnetic cycle (double solar cycle) identified by Chernosky
1973	Coronal holes and coronal mass ejections discovered with X-ray instruments aboard Skylab
Apr 2000	Solar maximum
Dec 2008	Solar minimum (Start of solar cycle 24)
Apr 2011	Solar maximum
Dec 2019	Solar minimum (Start of solar cycle 25)
2020	Prediction of solar cycle until year 3200 (Temperature 7 (2020) 217-222)