

Big Data in Medieval Europe : Computing Daily Planetary Positions for Multiple Years

Tuesday, January 11, 2022 2:00 PM (1 hour)

Computation of long series of true planetary positions at regular time intervals (e.g., days) or consecutive eclipses has long been a central task of mathematical astronomy, from the Babylonian goal-year texts (500 BCE) through Greek, Arabic, Hebrew and Latin astronomy and continuing into the modern period with the national editions of astronomical almanacs prepared by the Nautical Almanac Office of Great Britain, French Bureau des longitudes or the US Naval Observatory. The first printed book of numerical data was a massive daily ephemerides for the years 1475-1506, published in 1474 in Nuremberg. How did medieval astronomers compute hundreds of thousands of positions to a precision of arcminutes ? How were these results copied and transmitted ? Who needed such numerical data ? This paper will explore the first wave of “Big Data” to sweep across Europe in the 14-15th centuries.

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