

## GEOMAGNETIC JERKS SEEN IN HISTORICAL DECLINATION AT MUNICH

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Long series of geomagnetic field change are crucial for understanding the geodynamo process.

The longest historical series come from magnetic declination, which can be obtained from several sources. Apart from early measurements made on ships for navigational purposes, declination information has e.g. been used to orient portable sundials correctly by means of a compass or when determining the orientation of mining legs.

We have compiled 489 new historical declination values from southern Germany and surrounding areas. Indirect results, including the oldest ones from the middle of the 15<sup>th</sup> century, come from 184 sundials and compasses with declination information and 15 historical maps. Measurements carried out by monks in the time interval 1668 to 1854 amount to 122 annual mean values and data related to the orientation of mine shafts contributes 168 annual values for several locations.

Merging all previously compiled archeomagnetic and historical measurements since 1400 AD and our newly compiled data we have determined a smoothed declination curve for the location of Munich. This curve shows slightly more variability than previous curves for London and Paris. Known jerks in the 20<sup>th</sup> century can clearly be identified in the curve, although the smoothing leads to some uncertainty of occurrence time. Earlier impulses in secular variation are seen in 1775, 1735, 1665, 1560, 1510, 1450 and 1410, but a temporal uncertainty of about  $\pm 10$  years must be considered for these dates.

Declination; Geomagnetic jerks, Historical data

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