

**Seminar SAW:**  
**Mathematical practices in the context of the astral sciences**

**Abstract**

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*Angles of obscuration in Late Babylonian eclipse reports*

The question whether the reported entrance and exit directions of the shadow in Babylonian eclipse records were given in an equatorial, ecliptic or horizontal coordinate system has never been studied in detail on the basis of the complete available textual material. Neugebauer and Hiller suggested in 1934 that these directions were measured in an equatorial coordinate system, but with high uncertainties. I will present a new analysis of the in the meantime increased number of observational records. For solar eclipses the number of preserved records is too small for a statistically robust analysis, but in the case of lunar eclipses the position angles were definitely not measured in the direct observable horizontal coordinate system, but very likely in a simplified ecliptic coordinate system. For a conversion of the actually observed horizontal position angles into the ecliptic ones preserved in the observational records it is necessary to know the exact location of the north ecliptic pole. However, from an observational point of view this is not necessary. I will discuss an efficient method for the determination of position angles of lunar eclipses in an ecliptic coordinate system from an observational point of view which does not work for solar eclipses, thus also explaining the unsatisfying rate of agreement in the case of solar eclipses.