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## Sulaymān ibn ‘Iṣma: Abū Dāwūd Sulaymān ibn ‘Iṣma al-Samarqandī

Giuseppe Bezza

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*Flourished* **Samarqand, (Uzbekistan), second half of the 9th century**

Much of our information on Sulaymān ibn ‘Iṣma comes from the remarks of **Bīrūnī**. According to Bīrūnī, Sulaymān made observations in Balkh (Afghanistan) in 888–890 for determining the obliquity of the ecliptic. For this purpose, he used a mural quadrant (*libna*) provided with an alidade, the diameter of the quadrant being about 8 cubits (*dhirā’*), approximately 4 m. He found the meridian solar altitude at the winter solstice to be 29° 46' and at the summer solstice 76° 54'. From this he determined that the obliquity of the ecliptic was 23° 34', 1 min less than the result of **Battānī**. Bīrūnī also tells us of Sulaymān's determination of the length of Spring and Summer, and attributes to Sulaymān a *zīj* (astronomical handbook) dealing with the Sun and Moon (*Zīj al-nayyirayn*), as well as a book on the construction of an instrument for determining the visibility of the crescent (*Qānūn* II, p. 654). **Nasawī** claims that Sulaymān also wrote a commentary on the *Almagest*.

Finally, Sulaymān composed a commentary on the tenth book of Euclid's *Elements*, which is still extant.

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