

[Review of S. Mohammad Mozaffari, “Muhyi al-Din al-Maghribi’s measurements of Mars at the Maragha observatory”]

Høyrup, Jens

Published in:
MathSciNet : Mathematical Reviews on the net

Publication date:
2020

Document Version
Early version, also known as pre-print

Citation for published version (APA):
Høyrup, J. (2020). [Review of S. Mohammad Mozaffari, “Muhyi al-Din al-Maghribi’s measurements of Mars at the Maragha observatory”]. *MathSciNet : Mathematical Reviews on the net*, [MR3967647].

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain.
- You may freely distribute the URL identifying the publication in the public portal.

Take down policy

If you believe that this document breaches copyright please contact rucforsk@ruc.dk providing details, and we will remove access to the work immediately and investigate your claim.

MR3967647

Mozaffari, S. Mohammad (IR-RIAAM; Mararegh)

Muḥyī' al-Dīn al-Maghribī's measurements of Mars at the Maragha observatory. EN (English Summary)

Suḥayl **16/17** (2018/19), 149–249

Reviewer: *Høyrup, Jens*

012776 (DK-ROSK-QS; Roskilde)

Primary 01A30

Secondary(s) 85-03 85-08

Muḥyī al-Dīn al-Maghribī (probably born in Tunis, d. 1283 CE) was active as an astronomer first in Damascus, then in the Maragha observatory founded in 1259 by the Mongol ruler Hūlagū. He is thus a representative – one of the most brilliant representatives, indeed – of the second phase of Islamic astronomy (ca 1050 onward), in which all planetary parameters were controlled and when needed redetermined, whereas the first “classical” period (ca 800 to ca 1050) had mainly concentrated on “deriving the basic solar and lunar parameters and fundamental parameters such as the rate of precession and the obliquity of the ecliptic” (p. 211).

Within this general framework, substantiated with many references to earlier and later works (mostly *zījes* and the parameters they make use of), the author describes the main works and the Martian observations of Muḥyī al-Dīn: a first *zīj* prepared ca 1258 for the coordinates of Damascus, making use of a number of non-Ptolemaic planetary parameters; a second *zīj*, prepared shortly after Muḥyī al-Dīn's arrival in Maragha and apparently some kind of lecture notes of uneven origin; and most important, a third *zīj* building on Muḥyī al-Dīn's personal observations from Maragha from the years 1262–1274, together with his *Talkhīṣ al-majistī*, “Compendium of the *Almagest*”, written after 1276, and actually no mere compendium of the Great Book: it abounds in observational records, in contrast to other compendia.

The article is technically very specific. It explains the Ptolemaic model in much more detail than normal expositions (the author apologizes for not doing as much as can only be done in a book-length treatment); it also relates precisely how a

restricted number of observations made in particular celestial situations allow to determine the decisive parameters independently of each other, and how Muḥyī al-Dīn went about doing so (quoting his own descriptions at length).

Finally, comparison with data derived from modern astronomical calculations allows the author to judge the precision of Muḥyī al-Dīn's results, which in most cases are better than those of other astronomers working between the early eighth and the late fifteenth centuries.