

- A) Four observations of the occultation of stars by moving planets;
- B) Twenty one observations of lunar eclipses, mentioned in the Almagest.

The present work is devoted to the dating of the Almagest on the basis of the observation data *A* and *B*. Let us emphasize that here we actually date the *text of the Almagest itself* (and not only its star catalogue as in [310, 312–314, 317, 319]).

We obtained the following results:

1) The observation data *A* (i.e., the occultation of the stars by planets) can be dated to the historical interval from 887 A.D. to 1009 A.D. It is remarkable that this time interval agrees with the interval obtained in [312–314] as a result of the star catalogue's independent dating.

2) The observation data *B* (i.e., lunar eclipses) are distributed, according to the Almagest, over a long time interval (its length is about 900 years). It turned out that it is the historical interval from 492 A.D. to 1350 A.D. Moreover, the most "dense" collection of the observations of lunar eclipses occurred in the 11th century A.D. And again we see an ideal correspondence with the results of the independent dating of the star catalogue of the Almagest and of the observation data of type *A* (see above).

3) In both cases, *A* and *B*, Ptolemy assigned observations of types *A* and *B* to the same "era" (the so-called "era of Nabonassar"). It is clear that now, after the dating of all observations *A* and *B*, we can obtain the *beginning (the initial point) for this era* by two *independent* methods. It is remarkable that these two methods lead to the same result: *the beginning of Nabonassar's era is about 490 A.D.* Let us recall that the traditional dating of this initial point (which is common today) is 747 B.C.

It is important that the numerical data comprising, i.e.,

the latitudes in the star catalogue of the Almagest,
the information about the occultation of the stars by planets, and
the observations of lunar eclipses in the Almagest,

are *completely independent*. Thus, an excellent coincidence of all these datings in all three cases is a serious argument in favour of the opinion that the Almagest is the entire (genuine) document (text) which was originally created in the 10–11th centuries A.D. and then extended and enlarged in the middle of the 14th century A.D.

2. Dating of the Occultation of the Stars by Planets

The Almagest contains the description of only four occultation of stars by the planets [321], [327]. Ptolemy says:

1) "*Of the old observations, we took one which Timocharis records thus: In the year 13 of Philadelphus, Egyptianwise Mesore 17–18 at the twelfth hour, Venus appeared to have exactly overtaken the star opposite Vindematrix*" [327, p. 319; Section X.4].

2) "*We took one of the old observations, according to which it is quite clear that in the year 13 according to Dionysius, Aigon 25 in the morning, Mars seemed to occult Scorpion's northern forehead*" [327, p. 342; Section X.9].