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ZIJ

New Guragani Astronomical Tables

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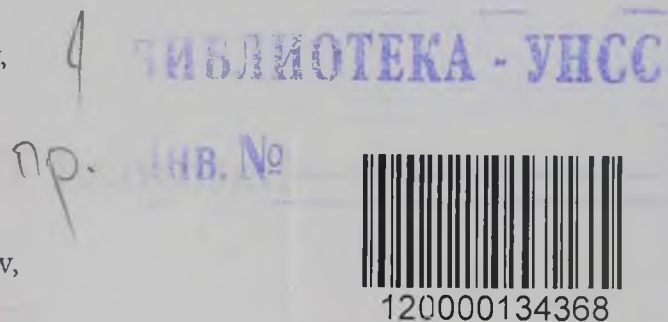
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The Zij of Ulugh Beg, or "The New Guragani Astronomical Tables" is an outstanding astronomical work of the 15th century, compiled by a group of scientists headed by the grandson of great Amir Timur, the ruler of Maverannahr Mirza Ulugh Beg (1394–1449). The Zij data are based on long-continued observations from a specially built Samarkand Observatory through the use of a system of major astronomical instruments, as well as unique mathematical methods of trigonometric calculations based, specifically, on the knowledge of $\sin 1^\circ$ and the number π with accuracy achieved in Europe only a century and a half later. All this made it possible to create in Samarkand a set of tables that became the pinnacle of the medieval observational astronomy, the accuracy of which was surpassed only after optical telescope was developed.

This is the first full English translation of the four-book treatise. The first book deals with chronology and calendars and contains information on the chronology and eras of the ancient Chinese, Turks, Persians, Greeks and Arabs; the second book, devoted to spherical astronomy and mathematical geography, contains mathematical and geographical tables; the third, on planetary motions and stellar astronomy, contains tables of planetary motions and a star catalogue describing the spherical coordinates of 1014 stars. All tables allow easy interpretation for two thousand years before and after the Zij era (1437). The fourth book is devoted to astrology, the description of horoscope predictions.

This translation of the Zij of Ulugh Beg is supplied with comprehensive commentaries with the use of medieval commentaries by Nizam ad-Din al-Birjandi (1523).

The book is intended for science and culture historians, mathematicians and astronomers.

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CONTENTS

Preface to the first edition	3
Preface to the second edition and publications in uzbek, english and chinese	16
Preface to the english translation of the second edition	18
Book one. On the determination of Eras	63
Book two. On the determination of time and ascensions at each point [of time] and what relates to it	97
Book three. On the determination of luminaries' position and their locations by longitude and latitude and [issues] related to them1	215
Book four. On other operations with stars	347
Commentaries on the introduction	375
Commentaries on book one	379
Commentaries on book two	397
Commentaries on book three	513
Commentaries on book four	661
Index of sources and bibliography	676
Supplement to the bibliography in the second edition	685