

# Mirzo Ulugbek Academy and Activities

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**Abstract:** *In this article discusses the life and work of the great scientist Miroz Ulugbek at the observatory.*

**Keywords:** Observatory, madrasah, astronomy, moon and star, science, architecture

Mirzo Ulugbek, the grandson of the great Amir Temur, a unique scientist, showed his scientific courage in the Middle Ages. Today, this unique scientist has created a perfect astronomical table that contains the movements of thousands of stars. Even the most modern tools today confirm the accuracy and precision of the scientific data presented in this table. The life and scientific activity of Ulugbek is one of the cornerstones of the spirituality of our people and shows how much attention was paid to the development of fundamental sciences in our country a long time ago.

Ulugbek's (1394-1449) vigorous and highly influential activity in the fields of science, and first of all in the field of astronomy, has been and remains the greatest and greatest service to all mankind. Another of his great services was the construction of buildings of great educational and scientific importance. In this regard, Ulugbek left an indelible mark on the pages of history, demonstrating his great talent as a great organizer of research work and a great scientist of his time. He established a real academy in Samarkand. The academy had a well-equipped observatory, a rich library and a madrasah, a university of its time. The joint activities of the observatory and the madrasah allowed the Ulugbek Academy to raise astronomy and mathematics to the highest level in the Middle Ages. The historian Abdurazzaq Samarkandi (1413-1482), who described the buildings built by Mirzo Ulugbek in Samarkand, noted that during his time "the country of Movarounnahr reached the peak of administration and prosperity" and "for some time dorussaltana." We know that it was because of this that the observatory building was tall and circular in shape, with a circular dome of the sky and magnificent paintings and drawings depicting seven moving stars. In his chapter on the events of 1420, he wrote in 1468-1471, "Matlayi sadayn wa majmau bahrayin" (The place where the two blessed stars rise and the two seas meet): "Adequate share in science Mirzo Ulugbek Mawlana Salohiddin Musa Qazizodai Rumi, the owner of the capital, and Mawlana Alouddin Ali Kushchi (these two wise researchers lived in Samarkand) He brought it from Kashan to Samarkand together with the great Mawlana Giyosiddin Jamshid and the esteemed Mawlana Muiniddin.... He chose a suitable place in the north of Samarkand, more inclined to the east, and built an observatory. Inside these magnificent mansions are seven-story celestial arches, seven planets and fixed stars, and climates. , mountains, rivers, deserts, in short everything about the universe was described. It was then ordered to begin observing the motion of the Sun and the planets, to record and record what they saw.

The observatory building was circular in shape, 46-40 meters in diameter and 30.4 meters high, with a tiled surface and mysterious rivets. Zahiriddin Muhammad Babur (1483-1532) wrote about this in his book "Boburnoma": "Another high-rise building is located in the Pushtai Kohak domain. It has three kitchens. Ulugbek Mirzo finished Ziji Koragoniy with this observation, and this zij is the best in the world. They rarely do anything else.

The History of Kasira (History of Many Things), written in 1680 and revised in the early 18th century, also provides information about Mirzo Ulugbek's madrasah in Samarkand. The author writes with delight about the existence of the madrasah in the early 18th century and its four beautiful domes. However, the construction of the Ulugbek Observatory reminds us that Qazizada Rumi, Ali Kushchi and others worked there, and does not say anything about the existence of the observatory at that time. This suggests that the observatory, along with many other buildings, was destroyed in the early 18th century. Although the above-mentioned sources contain information that the observatory existed from the second half of the 15th century to the 18th century, there is no evidence that scientific research was carried out on it. This means that the observatory has survived since the second half of the XV century as a historical monument, a luxury architectural monument. But for various reasons, especially neglect, the end of the seventeenth century was devastated by the political turmoil of the first half of the eighteenth century, the invasions of immigrants, and the economic downturn. The world-famous city of Samarkand was severely damaged, especially in the 1920s. When restored Samarkand was filled with mostly immigrants, the memory of the observatory was almost forgotten. As a result, the observatory has been unknown for many years.

The main weapon of the observatory is a very large angle measuring device (vertical circle), a quadrant device with a radius of 40.2 meters and a length of 63 meters. The height of this world-famous device is compared to the height of the Hagia Sophia in Constantinople in seventeenth-century European manuscripts. The observatory was also unique in terms of equipment in the Middle Ages. It contained small instruments: an armillary sphere, measuring instruments consisting of 2,4 and 7 rings, triangles, sun and star clocks, a clock, and more. Using this scientific equipment, the Sun, Moon, planets and other individual stars were observed. Mirzo Ulugbek's greatest work was created at the Ziji Koragoniy Observatory.

Scientists around the world agree that the scientific heritage of the Ulugbek Academy was an important stage in the formation of astronomy as a science in the Middle Ages. The astronomical Zij created by his school has been used as a program for many major observatories around the world for hundreds of years.

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