

INTERPRETATION OF LIGHT PHENOMENA AND CLOUDS IN THE HIGH LAYERS OF THE ATMOSPHERE IN THE SCIENTIFIC WORK OF WENCESLAS S. JARDETZKY AND TODAY IN THE ERA OF COSMIC TECHNOLOGY

Since the 17th century, with the work of Galileo and Torricelli, the construction of meteorological instruments and the beginnings of regular measurement procedures have provided significant data on the properties of the atmosphere. Until that point, measurements were primarily taken on the surface of the planet or in shallow regions of the atmosphere. It wasn't until the 20th century, with the advent of space technology that the technical conditions for the study of higher atmospheric layers was viable. Until then, researchers of the upper regions of the atmosphere relied on visual observations, laboratory experiments and theoretical assumptions.

In Serbia, one of the first researchers of light phenomena and clouds in upper atmospheric layers was Wenceslas S. Jardeztzky (1896-1961). Without instrumental data, Jardeztzky interpreted light phenomena and clouds in the upper layers of the atmosphere using estimates from researchers, sourced from the late 19th until the early 20th centuries, about the structure of the atmosphere, as well as results from supplementary laboratory experiments. As a professor of astrophysics, by logically linking the observed facts and understanding the occurring processes, he indicated that the direction of future research will rely on monitoring the activity of the Sun, the charged particles of solar winds, magnetic and electric fields, and expanding our knowledge of atomic, chemical and optical processes. Cosmic technology significantly expanded our knowledge about those previously mysterious layers of the atmosphere, and confirmed that Jardeztzky was on the right track in his thinking.

Key words: Wenceslas S. Jardeztzky, atmosphere, polar light, polar stratospheric clouds