Merjenje razdalje do planetarnih meglic

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POVZETEK

V vesolju najdemo ogromno zanimivih astronomskih objektov. To so lahko galaksije, zvezde, meglice … Ko jih opazujemo s teleskopi ali jih le opazujemo samo po slikah, ki so jih različni teleskopi posneli, se niti ne zavedamo, da dejansko opazujemo v preteklost.

Kako daleč v preteklost bomo opazovali je seveda odvisno od oddaljenosti astronomskih teles do nas.

Obstaja ogromno metod za določevanje razdalje astronomskih teles do nas. Vsaka izmed njih ima svoje lastnosti. Za opazovanje bližnjih teles je uporabna metoda trigonometrične paralakse, za bolj oddaljene pa že Hubblov zakon.

V naši raziskovalni nalogi smo se odločili, da bomo opazovali planetarne meglice. V prvi vrsti je to ena izmed stopenj skozi katero bo v prihodnosti prešlo naša zvezda, Sonce.

Zato smo pri opazovanju planetarnih meglic se vprašali, ali je možno z manjšim teleskopom, prav tako dobiti dovolj dobre podatke, da lahko določimo razdaljo od nas do planetarnih meglic. Uporabili smo metodo merjenja razdalje s paralakso in na koncu naše meritve in rezultate vrednotili z že znano literaturo.

KEYWORDS: Planetary nebulae, measuring distance through parallax, telescope

Abstract

In the vastness of space, we encounter numerous fascinating astronomical objects. These can be galaxies, stars, nebulae... When we observe them through telescopes or simply view images captured by various telescopes, we often fail to realize that we are actually observing the past.

The extent to which we observe into the past naturally depends on the distance of astronomical bodies from us. There are numerous methods for determining the distance of

astronomical bodies from us, each with its own characteristics. For observing nearby bodies, the method of trigonometric parallax is useful, while for more distant ones, Hubble's law comes into play.

In our research project, we have chosen to observe planetary nebulae. Primarily, this is one of the stages through which our star, the Sun, will pass in the future.

Therefore, in observing planetary nebulae, we asked ourselves whether it is possible to obtain sufficiently good data with a smaller telescope to determine the distance from us to planetary nebulae. We utilized the method of measuring distance through parallax, and in the end, we evaluated our measurements and results with existing literature.