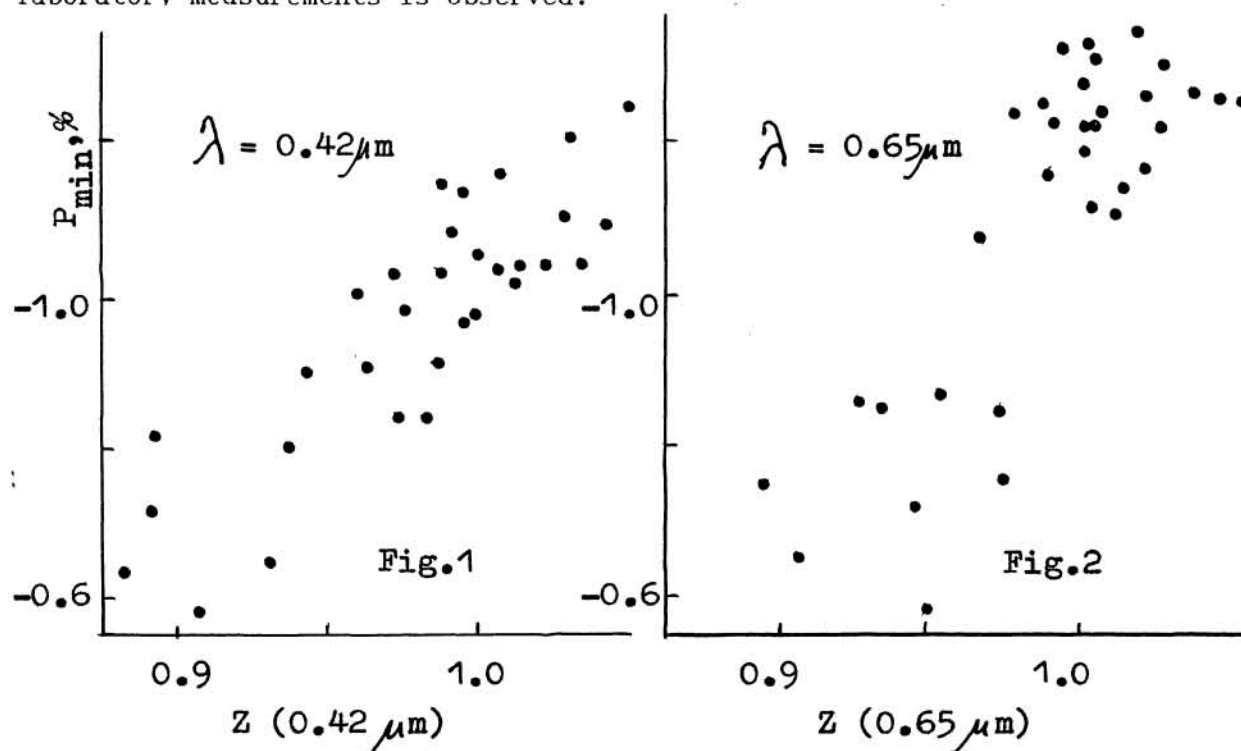


ON CORRELATION OF VALUE OF MINIMUM OF NEGATIVE POLARIZATION
AND PHASE DEPENDENCE SLOPE OF LUNAR BRIGHTNESS

Opanasenko N.V., Shkuratov Yu.G.

Astronomical Observatory of Kharkov University, 310022, Kharkov, USSR.

Dependences of the parameters of the oppositional brightness effect (such as phase curve slope or its curvature in certain point) upon negative polarization parameters (P_{min}, α_{inv}) was discovered in photometric and polarimetric laboratory measurements of several series of samples of different origin [1]. Such dependences apparently indicate that the negative polarization and oppositional effect, have similar nature which is important for constructing theories of these phenomena. The finding of similar correlation for Moon is of great interest. For this purpose telescopic measurements of several hundreds of regions of the lunar surface of the size about $10''$ with different albedo and morphological types were made. The measurements were carried out with spectropolarimeter [2] at wavelength $0.42\mu m$ and $0.65\mu m$ for phase angles 3.1° and 10.5° , both polarimetric and photometric measurements being done for the larger phase angle. In Fig.1 and Fig.2 diagrams $Z - |P_{min}|$ are shown for the red and blue light. Z is the slope of the brightness phase curve (ratio of brightness at phase angles 3.1° and 10.5°) divided by the slope of one of the measured regions (bottom of the le Monnier crater). In both cases ("red" and "blue" diagram) $Z - |P_{min}|$ correlation qualitatively similar to that found in the laboratory measurements is observed.



1. Shkuratov Yu.G. et al. *Preprint IRE Acad. Sci Ukrainian SSR no.361, Kharkov, 1989, 26 p.* (in Russian).
2. Bugaenko O.I., Guralchuk A.L. In: *Photometric and polarimetric investigations of celestial bodies*. Ed. Morozhenko A.V. Kiev: Naukova Dumka, 1985, p.160-164 (in Russian).