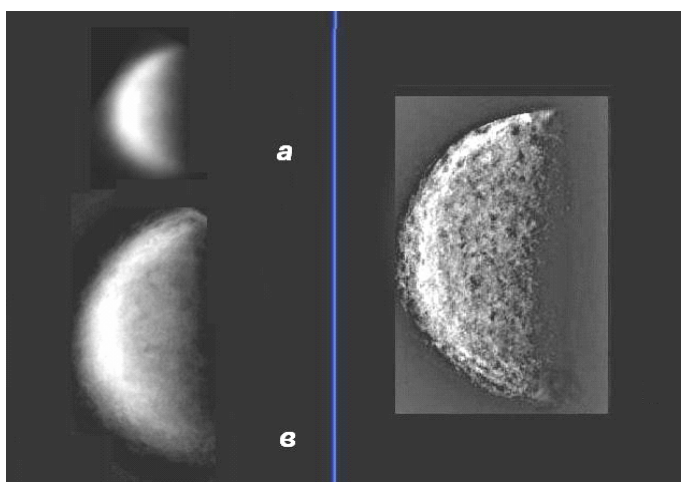


By space missions as background, a question may arise if there is any sense in continuing Earth-based studies of Mercury and creating images of its surface, when a more sophisticated satellite imagery from the Messenger spacecraft is achievable? The most important reason is that Mercury has a strong phase effects (probably stronger than one of the Moon). Because of that, the view of the surface changes completely with the phase of the planet. For example, on space images at the phase of 40--50°, the relief seems to completely "disappear", and the relief is only visible on the terminator. The main task of Mercury observations in 2006 was to obtain a complete view of the Skinakas Basin [1], which was done on the basis of observations from November 21, 2006 [2]. This day was the most comfortable both in regard to the basin position relative to the terrestrial observer and because of the low position of the Sun above the horizon of the basin.



The view of Mercury in the longitude range 220--355°W, in the phase of 98° (November 21, 2006). Advances in processing of electronic images of Mercury. The processing of the first level, stacking of 64 selected original images (a). The second level processing, stacking of 8 groups of the first level results (b). Results of the full treatment (the right portion). In the full processing, about 7800 original electronic images were used.

The Fig. shows a position of the planet relative to the Earth, and its surface in the longitude range 220--355°W. The meridian is about 270°W. The right portion shows the position of the Skinakas Basin. The periphery of the Skinakas basin is formed by the boundary of the inner rim, which has a relatively regular form. Its width in the meridional direction is 850 km. An annular depression of 1450 km in diameter covers the inner rim. The depth of the depression reaches 2 km.

Literature

1. Ksanfomality, L. The Surface of Mercury in the 210--350°W Longitude Range. *Icarus*, 2009, V. 200, pp. 367--373.
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