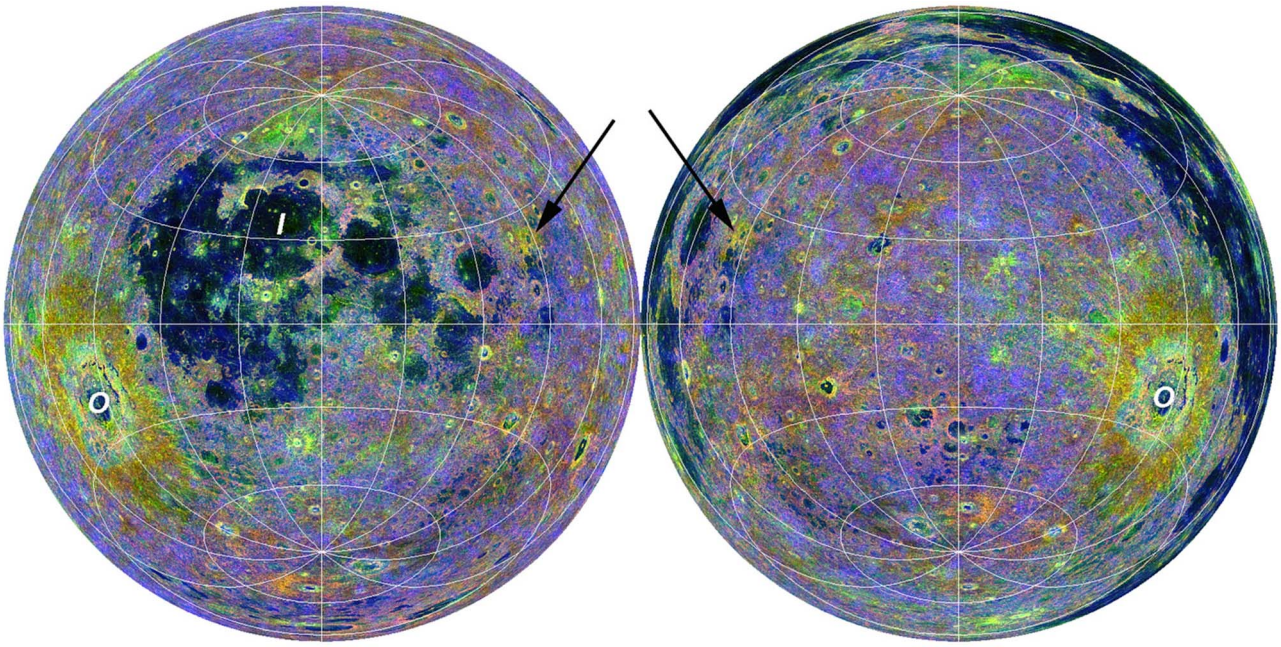

Figure 3. (left) Color RGB composite of the maps shown in Figure 1. (right) The same configuration, but the Lambert azimuthal equal-area projection is centered at the center of the farside. *I*, Mare Imbrium, *O*, Mare Orientale; arrows show roughness/concavity anomaly in the antipodal region of Orientale.

impact basin (Figure 4a; O in Figure 3) with its prominent zone of continuous ejecta (the Hevelius Formation [*McCauley*, 1967, 1977; *Fassett et al.*, 2011b]; its typical exposures are outlined with arrows in Figure 4a) immediately surrounding and distal to the topographic rim crest (Cordillera Montes ring). The Hevelius Formation is noticeably rougher than typical highlands (by factors of 1.2 and 1.3 at the shorter and longer baselines, respectively) and hence appears brighter in Figure 3. The pronounced yellow shade that characterizes the Hevelius Formation in Figure 3 is due to its low concavity (∼0.04) in comparison to typical highlands. A set of rough near-radial ray-like features is seen outside the distal boundary of the Hevelius Formation, and occur in the position of secondary crater chains radiating from the basin and observed in images.

[14] Orientale basin is unique; of the many basins on the Moon [*Wilhelms*, 1987], no other impact basin has this prominent roughness signature in Figure 3. The Imbrium

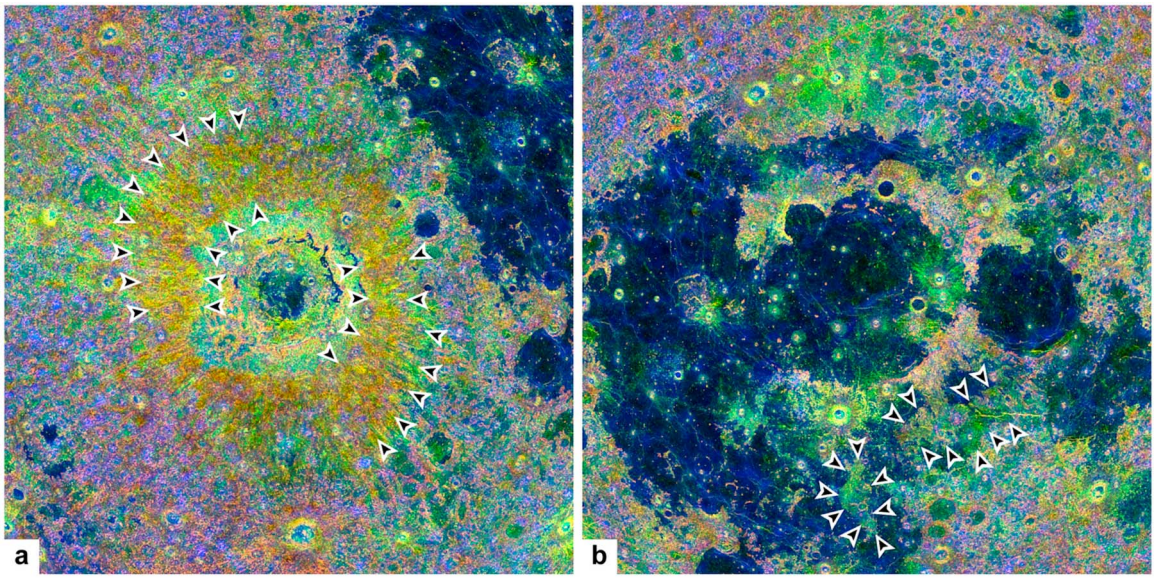

Figure 4. Parts of the color composite roughness/concavity map in Figure 3 reprojected and centered at the (a) Orientale and (b) Imbrium basins. Arrows outline typical exposures of continuous ejecta of these basins, Hevelius Formation (Figure 4a) and Fra Mauro Formation (Figure 4b).