

# Probing Mercury's Crust with MESSENGER



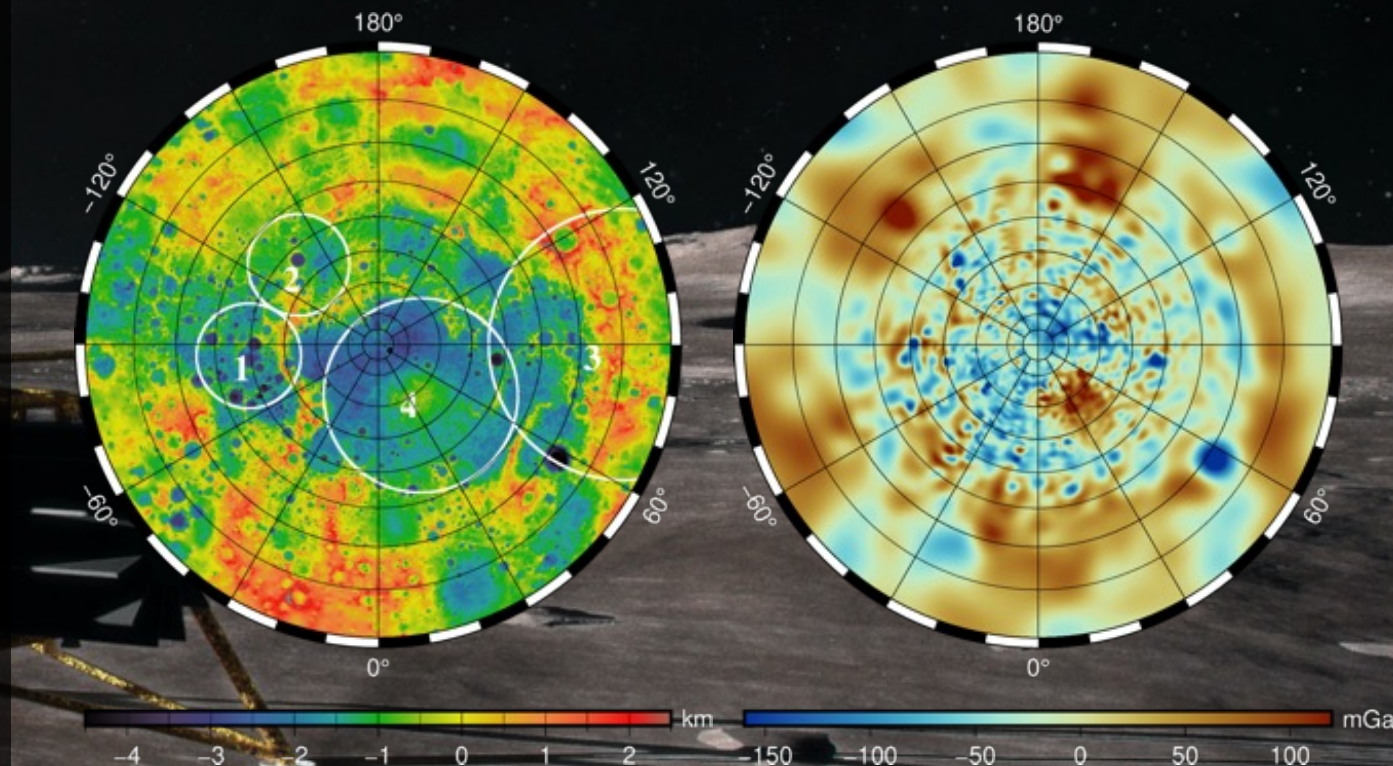
A new analysis of MESSENGER tracking data has resulted in one of the first robust estimates of the properties of Mercury's crust.

Our results indicate that the crust density is generally lower than previously thought and that there were high heat flows early in Mercury's history.

The team analyzed MESSENGER radio tracking data with a new method that focuses on small-scale features in the gravity field in four areas representing different types of terrain.

These results will shed new light on Mercury's formation and evolution by offering new constraints on modeling.

Goossens, S., A. Genova, P. B. James, E. Mazarico (2022),  
*The Planetary Science Journal*, Vol. 3, p. 145  
<https://doi.org/10.3847/PSJ/ac703f>



Maps of Mercury's topography (left) and the new gravity field (right), in polar stereographic projection centered on Mercury's north pole. White circles in the left panel indicate the areas that were analyzed in this study.