

Does the large differential Earth / Mars gravitation explain the lack of current water but evidence of plenty ancient water on Mars

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Abstract: Here we examine the large surface gravitational acceleration difference between the Earth=9.807 and Mars=3.711 and Newton's mutual-reciprocal gravitational mass attraction force:

$$F = k M_{\text{Earth}} m_{\text{mars}} / s^2_{\text{distance}}$$

Wherein the singular gravitational force on top of the Earth surface is:

$$F_{\text{Force,gravity,Earth}} = M_{\text{mass}} g, \quad g_{\text{Earth}} = 9.867$$

Wherein the singular gravitational force on top of the Mars surface is only:

$$F_{\text{Force,gravity,Earth}} = m_{\text{mass,mars}} g, \quad g_{\text{m, Mars}} = 3.711$$

This correlation suggest the possibility that the Earths' strong ground gravitational force, almost 3 times the Mars ground gravitational force, has transported-borrowed-attracted Mars ancient water resources, one water-molecule over time instant toward the Earth!

To underwrite this theory we examine the relative closeness of the Earth gravitational force reaching so close to the Martian surface, in comparison to the Martian gravitation reaching to the Earth surface:

$$F_{\text{force,gravitation}} = 1 / (R_{\text{Earth}} + h_{\text{height}})^2; \text{ or}$$

$$g_{\text{gravity,earth,above}} = K_{\text{konstant}} M_{\text{Earth}} / (R_{\text{radius, Earth}} + h_{\text{altitude,above}})^2$$

The numbers tell the story!

Earth Radius: 6371 KM this is almost **double** the Mars Radius: 3390 KM

Earth mass: 6×10^{24} KG this is a factor **10** times greater than Mars mass of only 6.39×10^{23} KG.

The closest orbital distance from Earth to Mars is: 5.58×10^7 KM; at mid point between the two planets the reciprocal gravitation is:

$$g_{\text{gravity,earth,above}} = K_{\text{konstant}} M_{\text{Earth}} / (R_{\text{radius, Earth}} + 5.58 \times 10^7 \text{ altitude,above} / 2)^2$$

$$g_{\text{gravity,mars,above}} = K_{\text{konstant}} m_{\text{mars}} / (R_{\text{radius, mars}} + 5.58 \times 10^7 \text{ altitude,above} / 2)^2$$

Accordingly the Ratio of gravitational attraction between **Earth and Mars** at mid distance is:

$$g_{\text{gravity,earth,above}} = K_{\text{konstant}} M_{\text{Earth}} / (R_{\text{radius, Earth}} + 5.58 \times 10^7 \text{ altitude,above} / 2)^2$$

Ratio-----

$$g_{\text{gravity,mars,above}} = K_{\text{konstant}} m_{\text{mars}} / (r_{\text{radius, mars}} + 5.58 \times 10^7 \text{ altitude,above} / 2)^2$$

We reduce to:

$$M_{\text{Earth}} / R_{\text{Earth}}^2 + 2R_{\text{Earth}} + 1 \quad 6 \times 10^{24} \text{ KG} / 6371^2 + 2 * 6371 + 1$$

Ratio----- = -----

$$m_{\text{Mars}} / (r_{\text{mars}}^2 + 2r_{\text{mars}} + 1) \quad 6.39 \times 10^{23} \text{ KG} / 3390^2 + 2 * 3390 + 1$$

Because, the gravitation numbers function with the **squared distance** and the **square radius** within mutual reciprocal differential mass attracted mass sizes; this is giving the **Earth** a superior reach in all aspects attracting-diverting water from the Mars surface over **eons**, a few water molecules over the time **instant!**

