Answer on Question55218 - Physics / Mechanics — Kinematics — Dynamics - for completion

October 1, 2015

Given that the mass and radius of Jupiter are respectively $1.90 \cdot 10^{27} kg$ and $M = 7.15 \cdot 10^4 km$, calculate the escape velocity from the surface of the planet.

Solution

Escape velocity can be calculated as:

$$v = \sqrt{\frac{2GM}{R}} = \frac{26.7 \cdot 10^{-11} \cdot 10^{27}}{7.15 \cdot 10^7} \frac{m}{s} \approx 59.7 \frac{km}{s}$$