

(1) Is “g” at the surface of a gold nucleus greater or less than 980 cm s^{-2} ?

The mass of a gold nucleus is roughly $3 \times 10^{-22} \text{ g}$. At a distance of, say, 10^{-12} cm “g”, that is, GM/r^2 , would be $6 \times 10^{-8} \times 3 \times 10^{-22} / 10^{-24}$, or $2 \times 10^{-5} \text{ cm s}^{-2}$, very much less than 980 cm s^{-2} .