

[mex106] **Gravitational field of an inhomogeneous massive sphere**

Consider a massive sphere of radius R with a spherical mass distribution.

(a) Determine the mass density $\rho(r)$ which produces a gravitational field $g(r) = -\alpha = \text{const}$ for $0 < r < R$.

(b) Determine the gravitational field $g(r)$ produced by that same sphere at $r > R$.