

Our Gravity Field's 3-D Orthogonal Structure at an angular velocity of $\omega_o = 5 \omega_\epsilon$, occurs at an altitude of about 5,000 miles. Mathematically, the gravity field is described by this equation:

$$\frac{x^2}{a^2 - \lambda^2} + \frac{y^2}{b^2 - \lambda^2} + \frac{z^2}{c^2 - \lambda^2} = 1$$

This 3-D orthogonal formula describes an ellipsoid for $\lambda < a$, a one-sheeted hyperboloid for $a < \lambda < b$ and a two-sheeted hyperboloid for $b < \lambda < c$. We get a family of surfaces for a given a , b and c that are all perpendicular to each other (i.e., a 3-D orthogonal field structure).

[This video](#) shows how the two families of hyperboloids would form a latitude/longitude grid on this 3-D orthogonal structure in which **only** the ROSAE architecture maps to perfectly (*uniquely* with the zero meridian going through Greenwich).