

The surface area A of an ellipsoid given by the equation

$$\frac{x^2 + y^2}{\beta^2} + \frac{z^2}{c^2} = 1$$

can be expressed as:

$$A = \int_0^{2\pi} \int_0^\pi \beta \sin \theta \sqrt{\beta^2 \cos^2 \theta + c^2 \sin^2 \theta} d\theta d\phi$$