2D

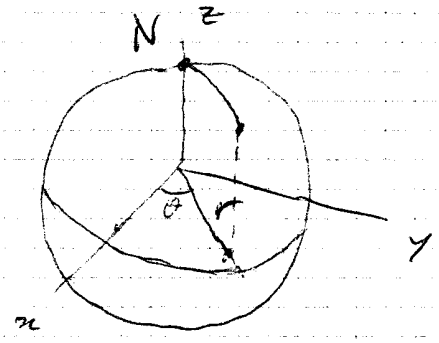
$x^2+y^2+z^2=R^2$

$x\,dx + y\,dy + z\,dz = 0$

$dl^2 = dx^2 + dy^2 + dz^2$

$$dl^2 = dx^2 + dy^2 + \frac{(x\,dx+y\,dy)^2}{R^2-x^2-y^2}$$

$$\begin{cases} x = r\cos\theta \\ y = r\sin\theta \end{cases}$$




$$dl^2 = dr^2 + r^2 d\theta^2 + \frac{r^2 dr^2}{R^2-r^2}$$

$\bar{r} = \frac{r}{R}$

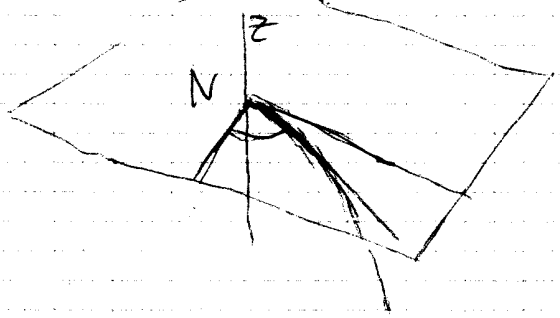
$$dl^2 = R^2\left(\frac{d\bar{r}^2}{1-\bar{r}^2} + d\theta^2\right)$$

$r_{max} = R$

$\bar{r}_{max} = 1$

→ pt sur équateur

$\approx$

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