

#Jenny



Finally I get this ebook, thanks for all these I can get now!

#Rio



Cool! I'am really happy

#Markus Jensen



I did not think that this would work, my best friend showed me this website, and it does! I get my most wanted eBook

#Hun Tsu



wtf this great ebook for free?!

#Che Salsa



My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler



so many fake sites. this is the first one which worked! Many thanks

3-21  $x = r \cos \phi, y = r \sin \phi$

$$\begin{aligned} \delta x &= \frac{\partial x}{\partial r} \delta r + \frac{\partial x}{\partial \phi} \delta \phi & \delta y &= \frac{\partial y}{\partial r} \delta r + \frac{\partial y}{\partial \phi} \delta \phi & \delta z &= \frac{\partial z}{\partial r} \delta r \\ \delta x &= \cos \phi \delta r - r \sin \phi \delta \phi & \delta y &= \sin \phi \delta r + r \cos \phi \delta \phi & \delta z &= \frac{\partial z}{\partial r} \delta r \end{aligned}$$

$$\begin{aligned} \delta s^2 &= \delta x^2 + \delta y^2 + \delta z^2 \\ &= \delta r^2 + r^2 \delta \phi^2 + \frac{\partial z}{\partial r} \delta r \\ &= \delta r^2 (1 + \cos^2 \phi) + r^2 \delta \phi^2 \\ &= \frac{\delta r^2}{\sin^2 \alpha} + r^2 \delta \phi^2 \\ &= \delta \left( \frac{\delta r}{\sin \alpha} \right)^2 + r^2 \delta \phi^2 \end{aligned}$$

\* To first order

$$\int_{\phi_1}^{\phi_2} ds = \int_{\phi_1}^{\phi_2} \sqrt{\frac{r^2}{\sin^2 \alpha} + r^2} \delta \phi$$

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