

$$ds^2 = (1+ah)^2 \cdot d\tau^2 - dh^2 - dy^2 - dz^2 \quad - (1)$$

↑ Given.

the Rindler metric is given by:-

$$ds^2 = \rho^2 d\tau^2 - d\rho^2 - dy^2 - dz^2 \quad - (2)$$

~~correction~~

We define  $\rho = 1 + ah$ .

Thus,  $d\rho = a dh$ .

⇒ For (1):-

$$ds^2 = \rho^2 d\tau^2 - \frac{1}{a^2} d\rho^2 - dy^2 - dz^2$$

So, for the special case of  $a = \pm 1$ , The given metric will behave as a Rindler metric

The coordinate change required is:-

$$\tau \rightarrow \tau$$

$$h \rightarrow$$

$$\tau = \tau$$

$$h = \pm(\rho - 1) \quad (\text{assumed } a = \pm 1)$$

$$y = y$$

$$z = z$$