

The body is subdivided into

$$n = 1 + \text{Floor}\left[\frac{10|\mathbf{K1L}|}{\text{EPS}}\right]$$

slices.  $\text{EPS} = 1$  is used when  $\text{EPS} = 0$ . Then a transversely linear transformation  $\text{exp}(: H_{2n} :)$  is applied in each slice with

$$H_{2n} = \frac{1}{n} \left\{ \left( -p + \frac{p_x^2 + p_y^2}{2p} + \frac{E}{v_0} \right) \mathbf{L} + \frac{\mathbf{K1}}{2} (x^2 - y^2) \right\} .$$

Between slices the correction  $\text{exp}(: \Delta H :)$  for the kinematical term

$$\Delta H = \frac{1}{n} \left( p - \sqrt{p^2 - p_x^2 - p_y^2} - \frac{p_x^2 + p_y^2}{2p} \right) \mathbf{L}$$

is applied. In a solenoid, the forms of  $H_{2n}$  and  $\Delta H$  are modified.