

$$\Delta \eta = \sqrt{\left(\frac{\partial \eta}{\partial L} \Delta L\right)^2 + \left(\frac{\partial \eta}{\partial t} \Delta t\right)^2 + \left(\frac{\partial \eta}{\partial r_k} \Delta r_k\right)^2}$$

$$\frac{\partial \eta}{\partial L} = -\frac{2}{9} r_k^2 q (p_k - p_{FL}) \frac{\bar{t}}{L^2}$$

$$\frac{\partial \eta}{\partial t} = \frac{2}{9} r_k^2 q (p_k - p_{FL}) \frac{1}{L}$$

$$\frac{\partial \eta}{\partial r_k} = \frac{4}{9} r_k q (p_k - p_{FL}) \frac{\bar{t}}{L}$$

$$\Delta \eta = \sqrt{\left\{ \left[-\frac{2}{9} r_k^2 q (p_k - p_{FL}) \frac{\bar{t}}{L^2} \right] \cdot \Delta L \right\}^2 + \left\{ \left[\frac{2}{9} r_k^2 q (p_k - p_{FL}) \frac{1}{L} \right] \Delta t \right\}^2 + \left\{ \left[\frac{4}{9} r_k q (p_k - p_{FL}) \frac{\bar{t}}{L} \right] \Delta r_k \right\}^2}$$

$$\Delta \eta = \sqrt{\frac{4}{81} r_k^4 q^2 (p_k - p_{FL})^2 \frac{\bar{t}^2}{L^4} \Delta L^2 + \frac{4}{81} r_k^4 q^2 (p_k - p_{FL})^2 \frac{1}{L^2} \Delta t^2 + \frac{16}{81} r_k^2 q^2 (p_k - p_{FL})^2 \frac{\bar{t}^2}{L^2} \Delta r_k^2}$$

$$\Delta \eta = \sqrt{\frac{4}{81} r_k^2 q^2 (p_k - p_{FL})^2 \frac{1}{L^2} \left[\left(r_k^2 \frac{\bar{t}^2}{L^2} \Delta L^2 \right) + \left(r_k^2 \Delta t^2 \right) + \left(4 \bar{t}^2 \Delta r_k^2 \right) \right]}$$