The variance of the mean of an estimated quantity x (e.g., fluence), calculated by N FLUKA jobs, is:

$$\sigma^2_{<x>} = \left[\frac{1}{n}\sum_{i=1}^{N} n_i x_i^2 - \frac{1}{n^2}\left(\sum_{i=1}^{N} n_i x_i\right)^2\right]\frac{1}{N-1}$$

where:

- n_i is the number of histories in the i^{th} job
- $n = \Sigma n_i$ is the total number of histories in the N jobs
- x_i is the is the average of x calculated in the i^{th} job: $x_i = \Sigma_{j=1}^{n_i} x_{ij}/n_i$, where x_{ij} is the contribution to x of the j^{th} history in the i^{th} job