How many seconds per point to reach a predefined precision on sigma?

$$Ntot = \sqrt{2\pi} A\sigma \times \frac{Npt}{10\sigma} = \sqrt{2\pi} A \times \frac{Npt}{10}$$

$$A = \varepsilon\mu(T \times Nbc \times 11223)$$

$$Ntot = \sqrt{2\pi}\,\frac{Npt}{10}\,\varepsilon\mu(T \times Nbc \times 11223)$$

$$\varepsilon_\sigma = \frac{1}{\sqrt{2Ntot}} < l$$

$$Ntot > \frac{1}{2l^2}$$

$$A > \frac{1}{2l^2\sqrt{2\pi} \times \frac{Npt}{10}}$$

$$T > \frac{1}{2l^2\sqrt{2\pi} \times \frac{Npt}{10}} \times \frac{1}{\varepsilon\mu(Nbc \times 11223)}$$

$Ntot$: Total number of events under the gaussian peak

A : Amplitude of the gaussian

σ : Standard deviation of the gaussian

Npt : Number of points between $\pm 5\sigma$

ε :Algorithm efficiency for single interaction

μ :Number of interactions per BC

Nbc : Number of filled BC

T : Duration of the measurement of the single point

ε_σ : Error on the standard deviation

l : precision required on the evaluation of σ

For instance:

$$T > \frac{1}{2 \cdot 0.01^2\sqrt{2\pi} \times \frac{20}{10}} \times \frac{1}{0.15 \cdot 0.01(43 \times 11223)} \sim 1.2s$$