Supplementary Information

Formulas

1. Bessel equation of order v:

$$I_\nu(z) = \left(\frac{z}{2}\right)^\nu \sum_{(k=0)}^\infty \frac{\left(\frac{z^2}{4}\right)^k}{k!\,\Gamma(\nu + k + 1)}$$

where Γ is the gamma function.

2. The conversion of the precision parameter κ to standard deviation (SD) follow the equation:

$$SD = \sqrt{-2 \cdot \ln \frac{I_1(\kappa)}{I_0(\kappa)}}$$