

`GaussianCoulomb[x, y, sigx, sigy]` returns the electromagnetic force $f_x + if_y$ at the coordinates (x, y) , generated by a Gaussian bunch with sizes $(\text{sigx}, \text{sigy}) = (\sigma_x, \sigma_y)$. Its derivative at the origin is

$$\frac{\partial f_x}{\partial x} = -2 \frac{x}{\sigma_x(\sigma_x + \sigma_y)} , \quad (201)$$

$$\frac{\partial f_y}{\partial y} = -2 \frac{y}{\sigma_y(\sigma_x + \sigma_y)} . \quad (202)$$