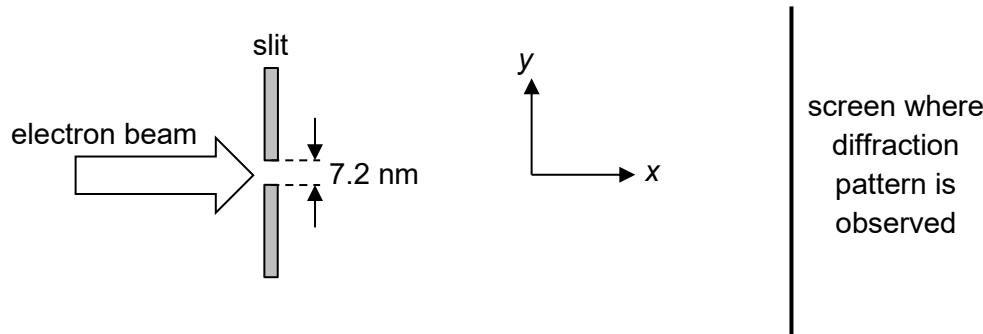


- 28 When an electron beam passes through a slit, a diffraction pattern is observed on a suitable screen. This phenomenon can be explained using Heisenberg position-momentum uncertainty principle.



The slit width is 7.2 nm.

For an electron passing through the slit, what is the uncertainty in the momentum of the electron and its direction that best relates to the phenomenon?

	uncertainty in momentum / kg m s ⁻¹	direction
A	9.2×10^{-35}	x
B	9.2×10^{-35}	y
C	9.2×10^{-26}	x
D	9.2×10^{-26}	y

- 29 It is observed that α particles incident on a thin gold foil are mostly undeflected, while a