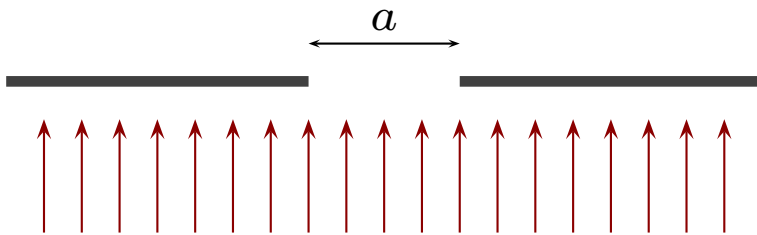


Question 1

Particles are fired toward barrier which contains a slit with width a . Prior to reaching the slit the momenta of the particles are (nearly) all identical and vertical.

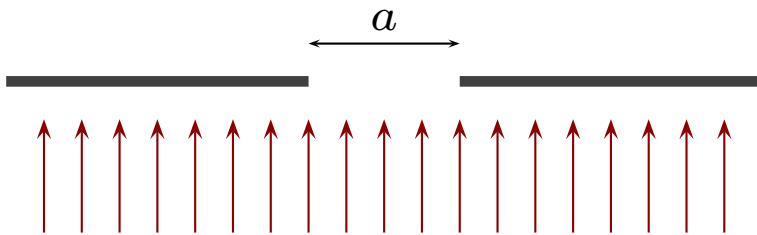


Which of the following is true about the uncertainty in the horizontal position, Δx , immediately after the particles pass the slit?

1. It is the same as it was before the particles reached the slit.
2. It is smaller than it was before the particles reached the slit.
3. It is larger than was before the particles reached the slit.

Question 2

Particles are fired toward barrier which contains a slit with width a . Prior to reaching the slit the momenta of the particles are (nearly) all identical and vertical.

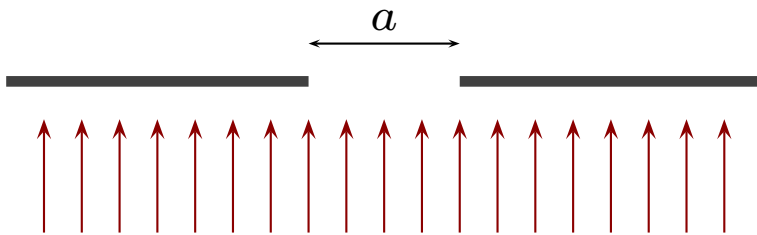


Which of the following is true about the uncertainty in the horizontal component of momentum, Δp , immediately after the particles pass the slit?

1. It is the same as it was before the particles reached the slit.
2. It is smaller than it was before the particles reached the slit.
3. It is larger than was before the particles reached the slit.

Question 3

Particles are fired toward barrier which contains a slit with width a . Prior to reaching the slit the momenta of the particles are (nearly) all identical and vertical.



Which of the following is true about the uncertainty in the horizontal component of momentum, Δp , immediately after the particles pass the slit?

1. It is larger when the slit width is larger.
2. It is smaller when the slit width is larger.
3. It is not affected by the slit width.