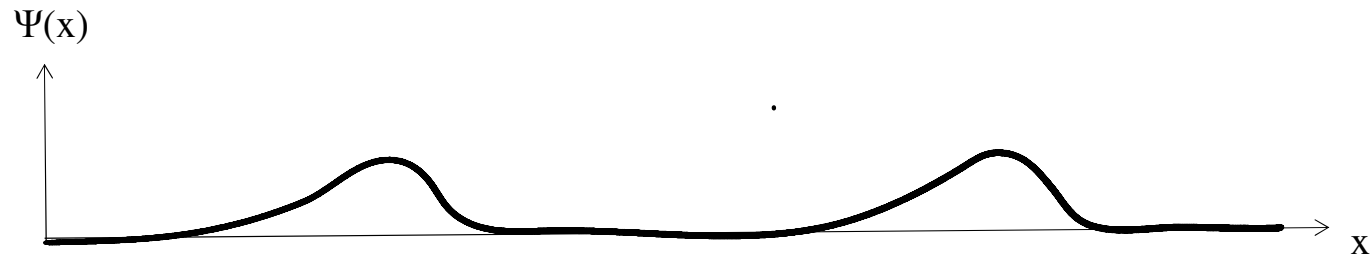


The wavefunction above represents

- A) Two electrons travelling towards each other
- B) Two electrons travelling in the same direction
- C) Two electrons travelling away from each other
- D) A single electron
- E) Not enough information to tell



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- A) Two electrons travelling towards each other
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An electron in a wire is described by the wavefunction shown above. Immediately after we measure the position of the electron, what will the electron's wavefunction look like?

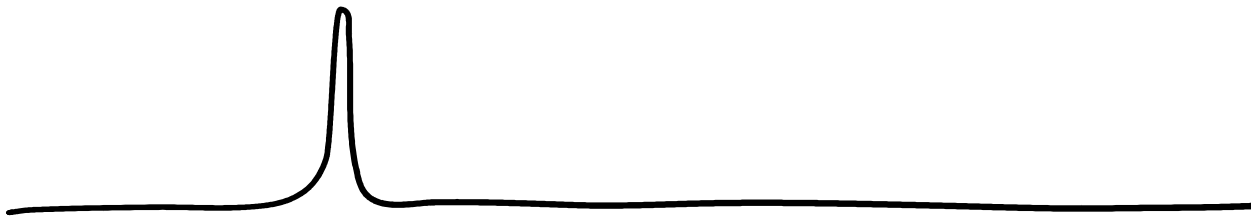


An electron in a wire is described by the wavefunction shown above. Immediately after we measure the position of the electron, which of the following could be the electron's wavefunction?

A)



B)



C)



D)

Any of the above

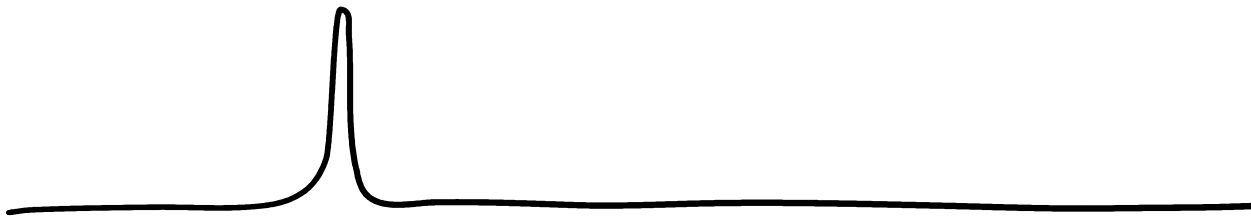


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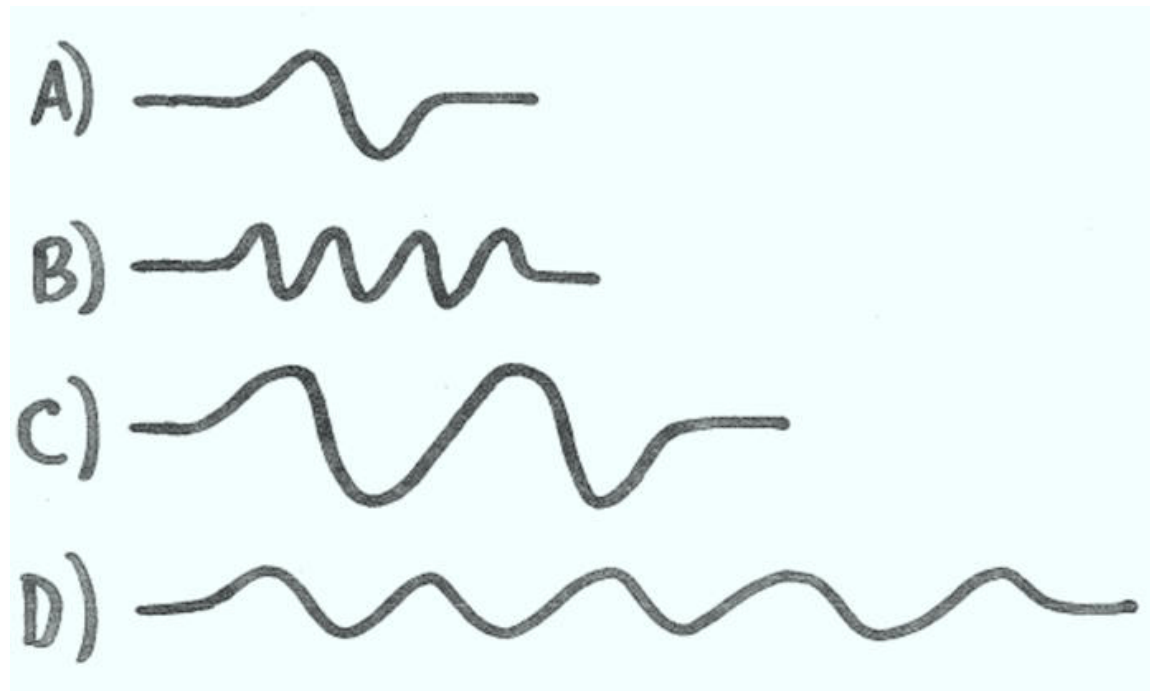
Any of the above

The wavefunction for some electron looks like a sine wave. What can we conclude about the electron?

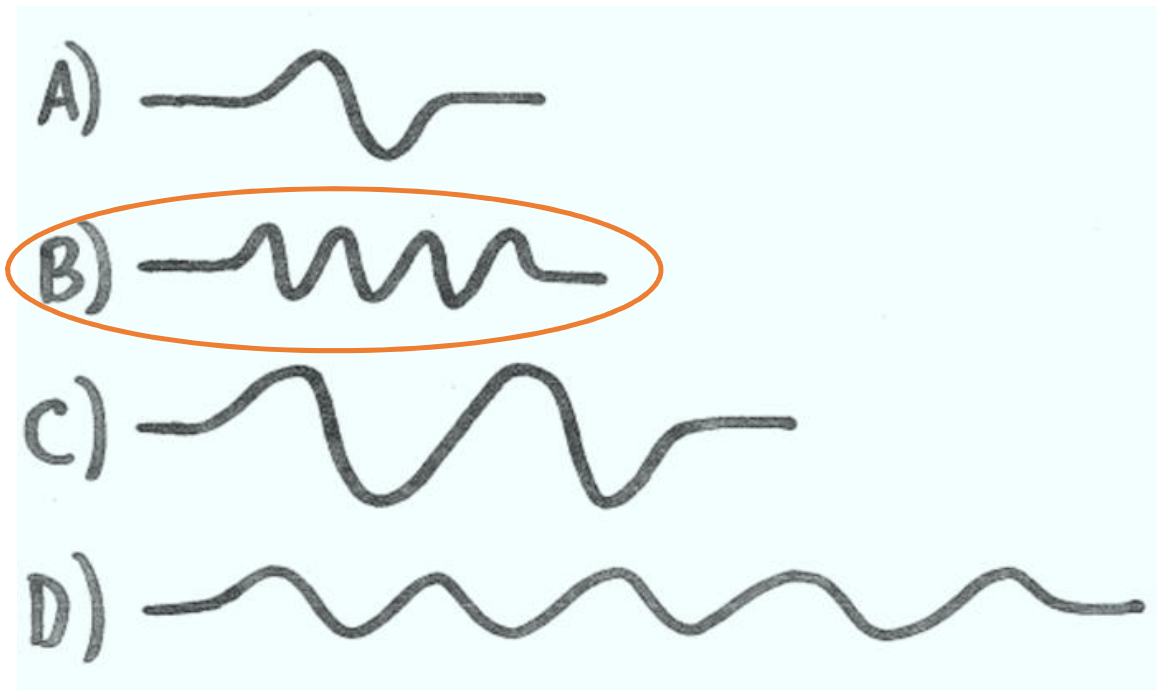
What would the wavefunction for a POSITION EIGENSTATE look like?

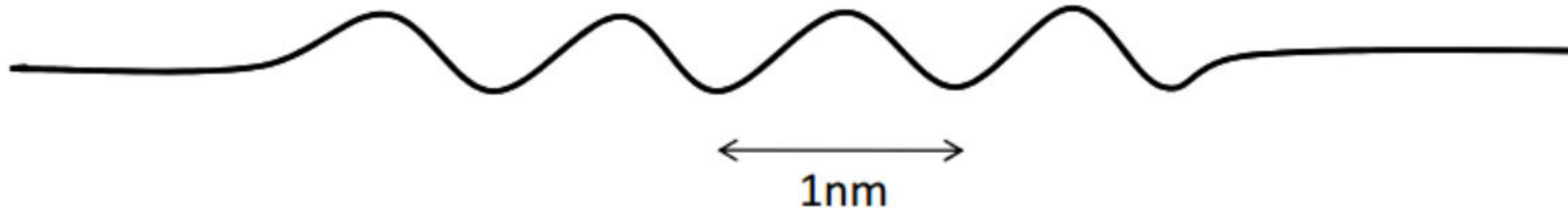
An traveling electron has momentum p . Draw the least spread out wavepacket that could represent this electron.

Which of the wavepackets below describes the fastest electron?



Which of the wavepackets below describes the fastest electron?





The picture above shows an electron's wavefunction at time $t=0$. What will the wavefunction look like at a slightly later time? Be quantitative if possible.