## **Channeling 2024**



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## On the possibility of resonance capture of valence electrons by non-relativistic protons channeled in carbon nanotubes

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In the paper, calculations were made on resonance capture of valence electrons by non-relativistic protons channeled in carbon nanotubes. The probabilities of the formation of hydrogen atoms with such capture were calculated using the non-stationary perturbed theory. Ionization processes are also analyzed and it is shown that in a certain range of speeds a sufficiently high yield of neutral hydrogen atoms is achieved.

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