

STABILITY OF TRIONIC STATES IN ZIGZAG CARBON NANOTUBES

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S u m m a r y

The stability of trionic excitations in zigzag carbon nanotubes has been estimated. A trion is shown to be unstable with respect to the ground excitonic state and stable with respect to the excited one. So, trions in nanotubes of this type can be formed by capturing an electron or a hole by an excited exciton. In other words, the trion in a nanotube is an excimer complex, which results in the formation of a system with three energy levels (unexcited exciton–trion–excited exciton).