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Effect of mismatched base pair on transport properties of DNA NERANJAN EDIRISINGHE, Georgia State University, VADYM APALKOV, Georgia State University — Charge transport through DNA largely depends on the transfer integral between neighboring base pairs. Replacement of regular base pair with a mismatched base pair (mispair), such as G-A mispair, can change the transfer integral locally and hence can alter the charge transport properties. We investigate I-V characteristic of the DNA molecule of a finite length and its dependence on the position of the mispair within the chain and the type of conformation of the mispair using non-equilibrium Keldysh formalism.

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