

Interchain energy exchange in the DNA coarse-grained model

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Abstract: In our report we consider the coarse-grained model of the DNA double-helix. In previous works only small amplitude excitations and stationary dynamics were investigated. We do not restrict our study to small amplitudes and focus on the non-stationary dynamics of the double-helix. Using the approximation of the weak coupling we reduce the system order and consider the interchain energy exchange. Reduced-order model allows us to make analytical prediction of the energy exchange or localization of energy for different parameters of the system. This work was supported by Russian Science Foundation according to the research project no. 16-13-10302

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