**SOME PECULIARITIES OF LONG-RANGE INTERACTION BETWEEN NUCLEOTIDES IN THE INTRACELLULAR LIQUIDS.**

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We present the theoretical analysis of long- range intermolecular interaction between the nucleotides, situated on the opposite ends of a broken DNA's helix. The most important region for the problem under consideration is 5 - 20 angstroms. To calculate the energy of interaction we need a representation for the dielectric permeability of the nucleotides and intracellular liquid in the all spectral band. We performed Kramers - Kroning analysis to obtain the optical constants and dielectric functions of the nucleotides and intracellular liquid in the infrared and ultraviolet regions. Between these regions we performed the extrapolation for the dielectric permeability. Our calculations have shown , that during the interaction between thiamin - guanine, adenine - guanine and cytosine -guanine there exists a potential barrier over a distance of about 7 - 15 angstroms at the room temperature and with reference to viscosity factor for pure water , which prevents the enzyme selfrepairing in DNA's after a double damage . All the remaining pairs of nucleotides have no such a barrier .

The barrier vanishes and DNA's undergoes a complete selfrepairing with the diminishing of the viscosity of intracellular medium. The examined mechanism of electrodynamics interaction between nucleotides is an important step toward resolving the many health problems with exposure to DNA-damaging agents.