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Virus capsid, diffusion exponent, and Gaussian fluctuation

Virus capsid exhibits an exotic diffusion phenomenon in a cell nucleus [1,2]. The distribution of the diffusion exponent takes a universal Gaussian form for two different types of the virus. Here, the statistical property of the local fluctuations of the diffusion exponent over the nucleus is discussed [3]. It is shown that the statistical distribution of the fluctuations derived by an entropic approach [4] is consistent with the Gaussian form. Local areas of interchromatin corrals are regarded as cubic blocks, (following a discussion originally made for a different cell [5]), and it is examined how large the number of blocks is. Based on the fluctuation distribution, a proposition is also presented for the form of the distribution of waiting time that the virus capsid stays in a given block.

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