

Physics in bacteria: chromosome compaction, gene expression, growth of individual cells.

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It has become possible recently to resolve important biological properties of cells in vivo, on large numbers of cells. This allows then models and approaches typical of statistical physics to be developed and deployed. In an effort to understand quantitatively aspects of bacterial life, we measure and model chromosome fluctuations, and rates of gene expression and cell growth. We consider the distributions in clonal populations, and search for correlations between these properties.

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