

Some aspects of molecular mechanisms of the cell cycle and diauxic growth from a mathematical perspective

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In the presentation I will talk about my main results from doctoral thesis. I will show and discuss model of entry into mitosis (one of the main part of the cell cycle) taking into account the influence of protein CDC6. Then, I will introduce diauxic growth (growth with more than one inflection point) in the context of this model. The next part of my presentation will be the mathematical background of diauxic growth. I will present some general differential equations which can produce diauxic growth: in the one dimensional case, in the two dimensional case with small parameter and in the mesoscopic scale.

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