Stringy growth model
by Bacterial Species *Bacillus subtilis*

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Introduction

- Bacteria groups form various colonies dependent on both nutrient concentration C_n and agar concentration C_a.

- Then, what will becomes of growth starting at a bacteria? If I can observe it's characteristic growth, I want to make it modeling.

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Experiment method

- I inoculated bacillus subtilis on the agar medium and attached it to microscope table keeping about 38 degrees.

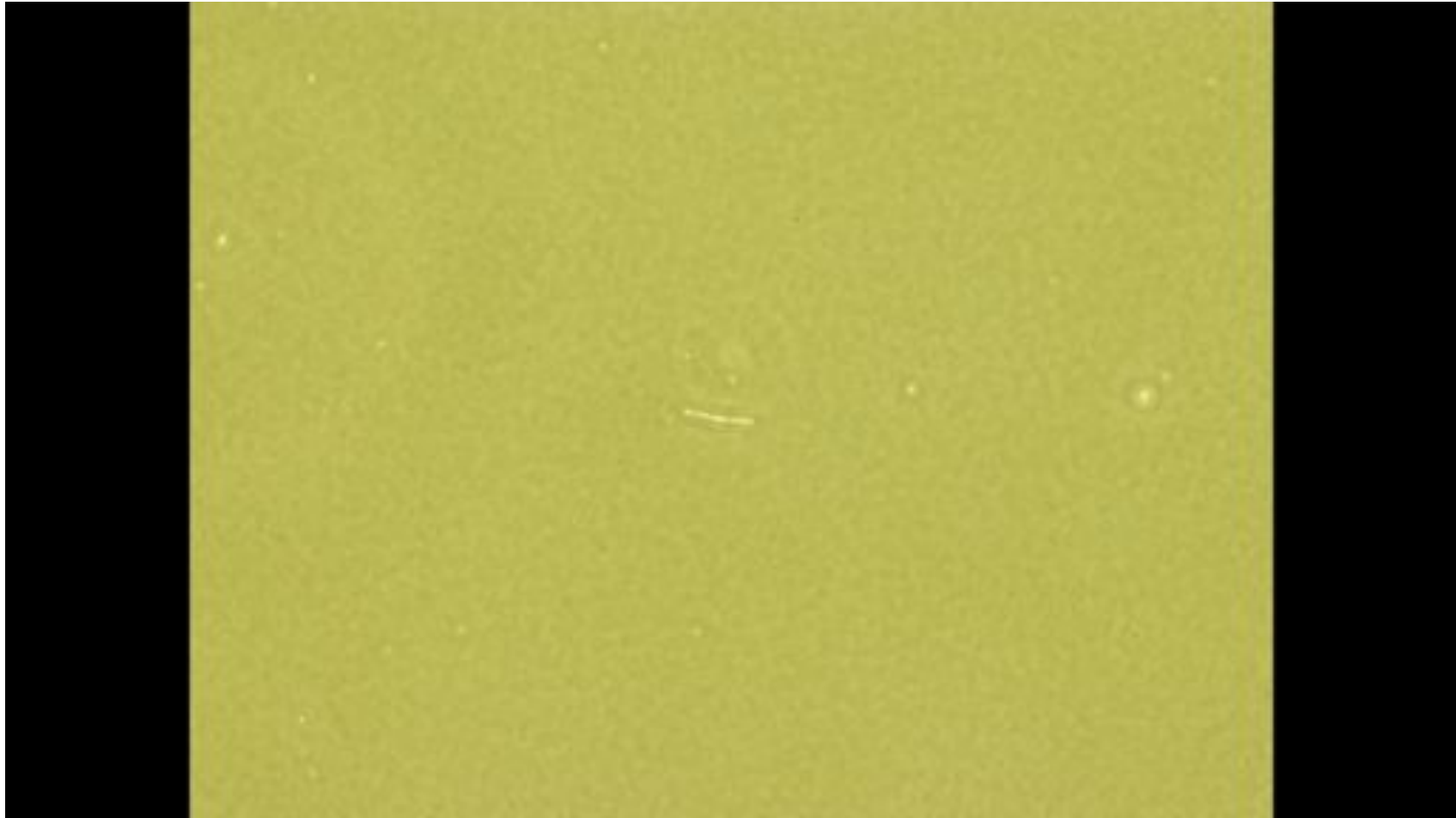- I photographed bacterial growth state with time-lapse mode.
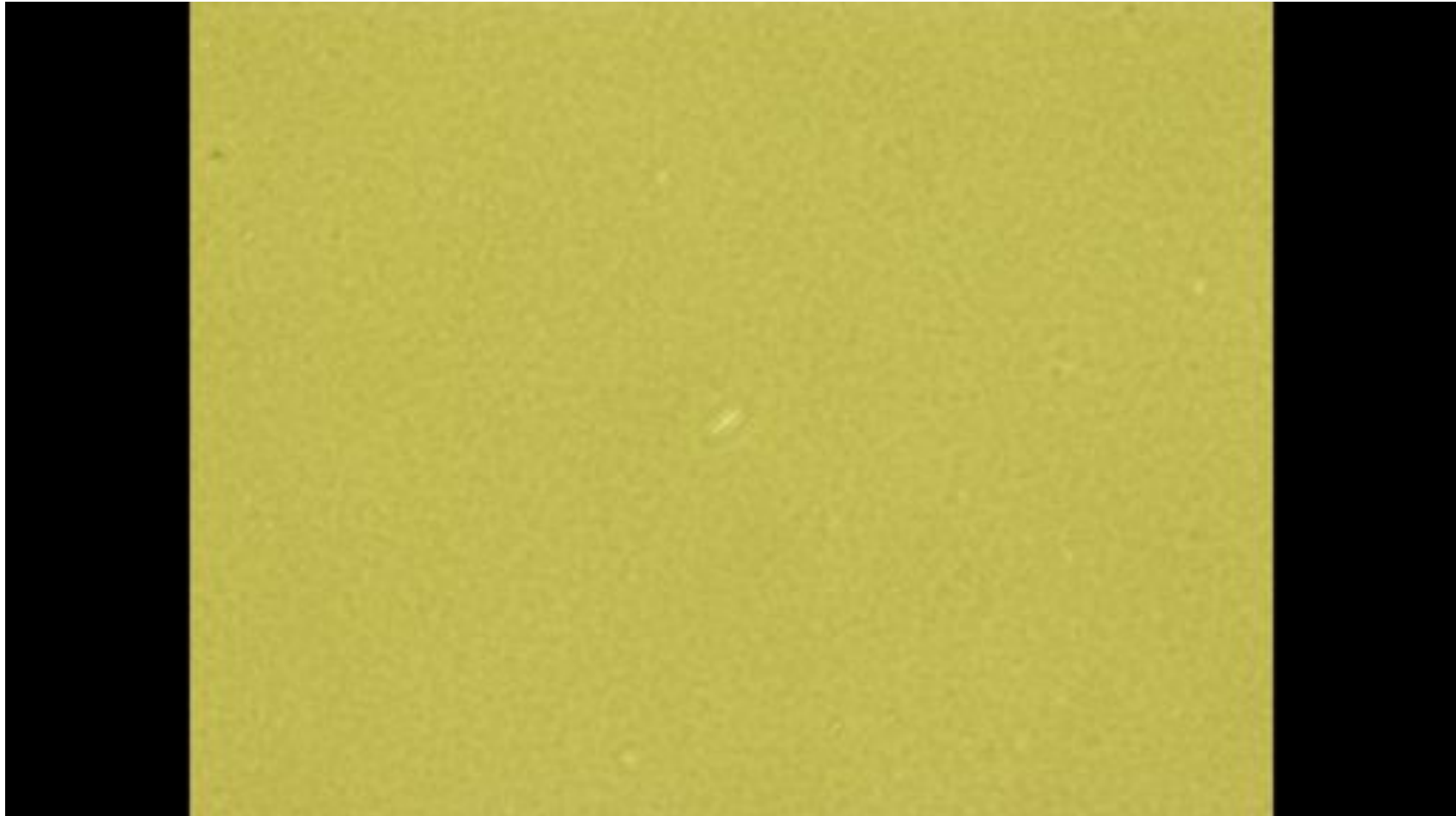
Movie 1

Illustrated in Movie 1

- Approximately, the process occurs in two steps.

- The first step is they are extended stringy without cutting off themselves and increase double line.

- The second step is a center of bacterial groups overlapping each other are expanded in a plane, as thrusting outward.

Movie 2

Movie 3

Movie 4

Consideration

- Now I have studied the first step.

- I think there are relation between the overall length of bacterial groups and the number of double line for time course.

- The problem is the second step. It's my future reserch task how do I quantitative analysis.