

Local existence of solutions of a free-boundary problem related to motion of Dictyostelium discoideum

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We study a free boundary problem with surface tension and friction effects in two-dimensional spaces. This problem is concerned with a motion of Dictyostelium discoideum introduced by professor Tamiki Umeda in kobe university. If we suppose that an initial boundary has sufficient regularity and no self-intersection, then we prove the existence of classical local solutions.