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Increasing Powers and Free Boundary Problems arising in Population Biology

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ABSTRACT

We consider an asymptotic model of a logistic type diffusion equation with a non-homeogeneous coefficient in the higher power of the reaction term when the power of this term tends to infinity. In the limit we find a model where the population density attends an upper saturation threshold in a region of positive measure. We also consider the asymptotic behaviour for large time recovering a free boundary problem arising from population biology considered by Dancer and co-workers.

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