

Behavior of symmetric reaction-diffusion problems near their critical values

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ABSTRACT.

We study the behavior of the Gelfand problem in its symmetric form and in the case where the critical value of the positive parameter δ does not belong in the spectrum of solutions of the corresponding steady-state problem. Using comparison techniques we obtain suitable upper and lower time-dependent solutions, which lead us to estimations of the time-dependent solution and of the blow-up time.

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