Title: Uniform Convergence for Singularly Perturbed Reaction Diffusion
Problems Using a Fitted Numerical Operator

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Abstract
Improved a'priori bounds for singularly perturbed reaction diffusion problems
were developed. From the improved a'priori bounds, the location and width of an
exponential boundary layer were determined. A fitted numerical operator was
proposed to solve such problems on a uniform mesh. The uniform convergence,
which is independent to the singular perturbation parameter, was verified
numerically and analytically.

Keywords: Singular Perturbation, Reaction Diffusion, Fitted Numerical Operator,
Uniform Convergence