

**NUMERICAL QUENCHING FOR ONE-DIMENSIONAL
 p -LAPLACIAN WITH SINGULAR BOUNDARY FLUX**

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ABSTRACT. This paper concerns the study of the numerical approximation for a semidiscrete non-newtonian filtration system with nonlinear boundary conditions. We find some conditions under which the solution of a semidiscrete form of the problem quenches in a finite time and estimate its semidiscrete quenching time. We also establish the convergence of the semidiscrete quenching time to the theoretical one when the mesh size tends to zero. Finally, we give some numerical experiments for a best illustration of our analysis.

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Received: June 23, 2021. *Revised:* October 01, 2021.

2010 *Mathematics Subject Classification:* 34B15, 35K55, 35K65, 65M06.

Key words and phrases: p -Laplacian, semidiscretization, singular boundary flux, semidiscrete quenching time, convergence.

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