Porous medium equation systems under non-local boundary conditions with blow-up analysis

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Abstract

In this paper, we deal with the blow-up analysis of the porous media equation system with non-local boundary conditions. By constructing appropriate auxiliary functions and using differential inequality techniques, we show that under certain conditions, the solution will blow-up in finite time. We also draw the upper and lower bounds of blow-up time. In addition, an example is given to verify the obtained results.

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