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## Local null controllability of a quasi-linear parabolic equation in dimensions 2 and 3

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### Abstract

In this work, we studied the null controllability in dimension 2 and 3 of the following model,

$$\begin{cases} y_t - \nabla \cdot (a(y)\nabla y) = v1_\omega, & (x, t) \in Q = \Omega \times (0, T) \\ y = 0, & (x, t) \in \Sigma = \partial\Omega \times (0, T) \\ y(0) = y_0, & x \in \Omega, \end{cases}$$

where  $a : \mathbb{R} \rightarrow \mathbb{R}$  is a  $C^3$  function that possess bounded derivatives and  $0 < m < a(t) < M$ .

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