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On some differential invariants for a family of diffusion equations. (English) Zbl 1121.35006
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Summary: The equivalence transformation algebra L_E and some of its differential invariants for the class of equations $u_t = (h(u)u_x)_x + f(x, u, u_x)$ ($h \neq 0$) are obtained. Using these invariants, we characterize subclasses which can be mapped by means of an equivalence transformation into the well-studied family of equations $v_t = (v^k v_x)_x$.

MSC:

[35A30](#) Geometric theory, characteristics, transformations in context of PDEs Cited in **12** Documents
[35K57](#) Reaction-diffusion equations
[58J70](#) Invariance and symmetry properties for PDEs on manifolds

Keywords:

[transformation algebra](#); [equivalence transformation](#)

Full Text: [DOI](#)