

# On the contact equivalence problem of second order ODEs which are quadratic with respect to the second order derivative

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## Abstract

In the present paper we establish the necessary and sufficient conditions for two ordinary differential equations of the form  $y''^2 + A(x, y, y')y'' + B(x, y, y') = 0$  to be equivalent under the action of the pseudogroup of contact transformations. These conditions are formulated in terms of integrals of some one-dimensional distributions. © 2013 Pleiades Publishing, Ltd.

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## Keywords

Contact transformations, differential invariants, ODEs, point transformations