Lie Symmetries Analysis for SIR Model of Epidemiology

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A system of nonlinear ordinary differential equations arising from SIR model of epidemiology is transformed into a system of one equation of second order and one of first order.This is a simple model proposed in 1927 by Kermack and Mckendick [1]. The Modified symmetry method is applied and differential invariants are used to obtain some exact solutions of the SIR model.

References

[1] Kermack, W. McKendick, Acontribution to the mathematical theory of epidemics. Pro.R.So. London A15,70(1927).