

Generalized symmetries of Burgers equation

Despite the number of relevant considerations in the literature, the algebra of generalized symmetries of the Burgers equation has not been exhaustively described.

We fill this gap, presenting a basis of this algebra in an explicit form and proving that the two well-known recursion operators of the Burgers equation and two seed generalized symmetries, which are evolution forms of its Lie symmetries, suffice to generate this algebra. The core of the proof is essentially simplified by using the original technique of choosing special coordinates in the associated jet space.

Primary author: POPOVYCH, Dmytro (Institute of Mathematics of NASU/Memorial University of Newfoundland)

Co-authors: Prof. POPOVYCH, Roman (Silesian University of Opava); Prof. BIHLO, Alex (Memorial University of Newfoundland)

Presenter: POPOVYCH, Dmytro (Institute of Mathematics of NASU/Memorial University of Newfoundland)

Session Classification: MATHEMATICS

Track Classification: MATHEMATICS