Nonlocal symmetries of Gibbons–Tsarev equation

Pavel Holba[1]

Mathematical Institute, Silesian University in Opava, Opava, Czech Republic

M160016@math.slu.cz

Iosif Krasil'shchik

Trapeznikov Institute of Control Sciences, Moscow, Russia and Independent University of Moscow, Moscow, Russia

josephkra@gmail.com

Oleg Morozov

Faculty of Applied Mathematics, AGH University of Science and Technology, Kraków, Poland

morozov@agh.edu.pl

Petr Vojčák

Mathematical Institute, Silesian University in Opava, Opava, Czech Republic

Petr.Vojcak@math.slu.cz

We consider the 3D integrable equation discovered independently by Mikhalev and Pavlov, $u_{yy} = u_{tx} + u_y uxx - u_x u_{xy}$ and its 2D reduction $u_{yy} = (u_y + y)u_{xx} - u_x u_{xy} - 2$ which is equivalent to the Gibbons-Tsarev equation. These equations play an important role in the theory of integrable systems, and the Gibbons–Tsarev equation is also related to the theory of conformal maps. We will present new results on the differential coverings and nonlocal symmetries of the equations in question. For details please see the paper [1].

References

[1] P. Holba, I.S. Krasil'shchik, O.I. Morozov, P. Vojčák. 2D reductions of the equation $u_{yy} = u_{tx} + u_y uxx - u_x u_{xy}$ and their nonlocal symmetries. J. Nonlinear Math. Phys. 24 (2017), suppl. 1, 36–47.

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