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ON SYMMETRY PROPERTY OF SOME ORDINARY DIFFERENTIAL EQUATIONS

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Let us consider the following ordinary differential equations

$$y' = F(x), \tag{1}$$

$$xy' = y\left[\ln y + F(x)\right], \tag{2}$$

$$y'' = F\left(x, y'\right). \tag{3}$$

I studied the symmetry property of the equations (1) – (3). It is proved that the Lie algebra of the symmetry group for each of the investigated equations is one-dimensional. For each of the symmetry operators of the equations (1) – (3) I have constructed the transformations of the corresponding local Lie group. Let me noted that some of the obtained results can be found in [1].

In my report I plan to present some of the obtained results.

1. *Ibragimov N. Kh.* Group analysis of ordinary differential equations and the invariance principle in mathematical physics (on the occasion of the 150th anniversary of the birth of Sophus Lie) (Russian) // Uspekhi Mat. Nauk. – 1992. – 47, No. 4 (286). – P. 83-144.

ПРО ВЛАСТИВОСТІ СИМЕТРІЇ ДЕЯКИХ ЗВИЧАЙНИХ ДИФЕРЕНЦІАЛЬНИХ РІВНЯНЬ

Побудовано інфінітезимальні оператори груп симетрії для заданих трьох звичайних диференціальних рівнянь.