Group Classification of Linear Second-Order Delay Ordinary Differential Equation

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Abstract. The linear delay ordinary differential equation

$$y''(x) + a(x)y'(x) + b(x)y'(x-\tau) + c(x)y(x) + d(x)y(x-\tau) = g(x)$$

is studied, where the coefficients $a(x), b(x), c(x)$ and $d(x)$ and function $g(x)$ are arbitrary. In this manuscript, group analysis is applied to find equivalent symmetries of the equation.

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