



Item Navigation

Multiple Inhomogeneous Terms

Consider the inhomogeneous linear second-order ode given by

$$\ddot{x} + p(t)\dot{x} + q(t)x = g_1(t) + g_2(t).$$

Show that

$$x(t) = x_h(t) + x_{p_1}(t) + x_{p_2}(t)$$

is the general solution, where $x_h(t)$ is the general solution to the homogeneous ode, $x_{p_1}(t)$ is a particular solution for the inhomogeneous ode with only $g_1(t)$ on the right-hand-side, and $x_{p_2}(t)$ is a particular solution for the inhomogeneous ode with only $g_2(t)$ on the right-hand side.

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