coursera

Item Navigation

Linear Superposition for Inhomogeneous ODEs

Consider the inhomogeneous linear second-order ode given by

$$\ddot{x} + p(t)\dot{x} + q(t)x = g(t);$$

and suppose that $x = x_h(t)$ is a solution of the homogeneous equation and $x = x_p(t)$ is a solution of the inhomogeneous equation. Prove that $x = x_h(t) + x_p(t)$ is a solution of the inhomogeneous equation.

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