Solvability of infinite system of second-order differential equations

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Abstract

In this talk, we present existence results for the solution of infinite systems of second order

$$\frac{d^2 u_i}{dt^2} = -f_i\left(t, u_1, u_2, u_3, ...\right); \ u_i\left(T\right) = 0, \ t \in [0, T]$$

differential equations in Banach sequence spaces c_0 and l_1 using the idea of Meir-Keeler condensing operators. We also give some examples to illustrate our results in these sequence spaces.

Key Words: Meir-Keeler condensing operator, Infinite system of second order differential equation.

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