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Non-autonomous implicit integral equations with discontinuous right-hand side

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Abstract: We deal with the implicit integral equation

$$h(u(t)) = f(t, \int_I g(t,z)u(z)dz) \text{ for a.a. } t \in I,$$

where $I := [0,1]$ and where $f : I \times [0,\lambda] \to \mathbb{R}$, $g : I \times I \to [0, +\infty[$ and $h :]0, +\infty[\to \mathbb{R}$. We prove an existence theorem for solutions $u \in L^s(I)$ where the contituity of f with respect to the second variable is not assumed.

Keywords: implicit integral equations, discontinuity, lower semicontinuous multifunctions, operator inclusions, selections
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