

# Spectral analysis and correct solvability of abstract integro-differential equations in a Hilbert space

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We obtain the correct solvability of abstract integro-differential equations in a Hilbert space. Then we study the spectra of the operator-valued functions which are the symbols of above mentioned equations. We analyze the integro-differential equations arising in applications (Gurtin-Pipkin type equations describing the process of heat propagation in media with memory, integro-differential equations arising in the theory of viscoelasticity).