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ON A DIFFERENTIAL GAME IN AN ABSTRACT PARABOLIC SYSTEM

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We consider the game problem of approach for a system whose dynamics is described by a differential operator equation in a Hilbert space. The equation is written in an implicit form with generally non-invertible operator multiplying the derivative. It is assumed that the characteristic operator pencil corresponding to the linear part of the equation satisfies a constraint of parabolic type in a right half-plane. Using the method of resolving functionals, we obtain sufficient conditions for the approach of a dynamical vector of the system to a cylindrical terminal set. Applications to systems described by partial differential equations are considered.

Keywords: differential game, parabolic system, ergodic theorem, pseudoresolvent, generator of a semigroup, set-valued mapping, resolving functional, partial differential equation.

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