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ON CLASSIFICATIONS FOR SOLUTIONS OF INTEGROQUASI-DIFFERENTIAL EQUATIONS

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ABSTRACT

In this paper, we have considered a quasi-differential expressions τ of order n with complex coefficients and its formal adjoint τ^+on$[0,b)$ respectively. We have shown in the case of one singular end-point and under suitable conditions on the integrand function $F\left(t,y,y^{[1]},\dots,y^{[n]},\ S(y)\right)$that all solutions of integroquasi-differential equation $[\tau-\lambda I]y(t)=wF$ are bounded and L^2_w −bounded on$[0,b)$provided that all solutions of the equation $(\tau-\lambda I)y=0$ and its formal adjoint$\left(\tau^+-\overline{\lambda}I\right)v=0$ possess the same property, where $S(y)$ is the Sumudu transform of the functiony.

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***KEYWORDS:** Quasi-differential Expressions, Regular and Singular Endpoints, Minimal and Maximal Operators, Quasi-Differential Operators**,** Integro Quasi-differential Equations and their Solutions, Boundedness of Solutions**,** Sumudu Transform of the Function*

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