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Reza R Ahangar* (reza.ahangar@tamuk.edu), 700 University BLVD, MSC 172, Mathematics Department, TAMUK, Kingsville, TX 78363. *Variation of Parameters for Causal Operator Differential Equations.*

The operator T from a domain D into the space of measurable functions is called a nonanticipating (causal) operator if the past informations is independent from the future outputs. We will investigate the solution to a nonlinear operator differential equation $y'(t)=A(t)y(t)+f(t,y(t),T(y)(t))$. We will also study the nonlinear variation of parameters (NVP) for this type of causal operator differential equations and develop Alekseev type of Nonlinear Variation of Parameters formula. (Received September 25, 2017)