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Jing Zhang* (jizhang@vsu.edu), Petersburg, VA 23806. *The Analyticity and Exponential Decay of a Stokes-Wave Coupling System with Viscoelastic Damping in the Variational Framework.*

In this paper, we study a fluid-structure interaction model of Stokes-wave equation coupling system with Kelvin-Voigt type of damping. We show that this damped coupling system generates an analyticity semigroup and thus the semigroup solution, which also satisfies variational framework of weak solution, decays to zero at exponential rate. (Received September 07, 2016)