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Felix Quispe Gomez* (quispe@mtm.ufsc.br), Campus Universitario, Trindade, Florianopolis, 88040900, Brazil. *Asymptotic Behaviour for a Transmission Problem in Hyperbolic Viscoelasticity*. Preliminary report.

In this poster we consider the following Transmission Problem in a bounded domain, and establish decay result of exponential type. The system we are concerned is given by differential equations

$$\partial_t^2 u - k(0)\Delta u - \int_0^\infty k'(s) \Delta u(\cdot, t-s) ds = 0, \quad \text{in } \Omega_1 \times]0, T[, \quad (1)$$

$$\partial_t^2 v - \alpha \Delta v = 0 \quad \text{in } \Omega_2 \times]0, T[, \quad (2)$$

transmission conditions

$$u(x, t) = v(x, t) \quad \text{on } \Gamma_1 \times]0, T[, \quad (3)$$

$$k(0)\partial_\nu u + k' * \partial_\nu u = \alpha \partial_\nu v \quad \text{on } \Gamma_1 \times]0, T[, \quad (4)$$

boundary conditions

$$u(x, t) = 0 \quad \text{on } \Gamma_o \times]0, T[,$$

and initial conditions

$$u(x, 0) = u_0(x) \quad \text{and} \quad \partial_t u(x, 0) = u_1(x) \quad \text{in } \Omega_2 \quad (5)$$

$$v(x, 0) = v_0(x) \quad \text{and} \quad \partial_t v(x, 0) = v_1(x) \quad \text{in } \Omega_1. \quad (6)$$

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