1145-46-367 **Ti-Jun Xiao*** (tjxiao@fudan.edu.cn), 220 Handan Rd., Yangpu District, Shanghai, Shanghai 200433, Peoples Rep of China. *Coupled systems of second order evolution equations in Hilbert spaces.* Preliminary report.

This talk concerns a class of coupled systems, which consist of second order evolution equations in a Hilbert space with indirect memory-damping. Based on the theory of hyperbolic type evolution equations, we investigate the stability of the coupled systems through the coupling and memory effects. The integrability for the energy of the system over $(0, +\infty)$ is obtained, which implies that the energy tends to zero at infinity. For reasonable memory kernels, we obtain uniform exponential stability of the energy. Moreover, we give an application of our general theorems to the Timoshenko system. (Received September 04, 2018)