1116-35-505 **Pei Pei*** (peipe@earlham.edu), **Mohammad Rammaha** and **Daniel Toundykov**. *Weak solutions and blow-up for wave equations of p-Laplacian type with supercritical sources.*

This paper investigates a quasilinear wave equation with Kelvin-Voigt damping, $u_{tt} - \Delta_p u - \Delta u_t = f(u)$, in a bounded domain $\Omega \subset \mathbb{R}^3$ and subject to Dirichlét boundary conditions. The operator Δ_p, $2 < p < 3$, denotes the classical p-Laplacian. The nonlinear term $f(u)$ is a source feedback that is allowed to have a *supercritical* exponent, in the sense that the associated Nemytskii operator is not locally Lipschitz from $\mathrm{W}_0^{1,p}(\Omega)$ into $L^2(\Omega)$. Under suitable assumptions on the parameters, we prove existence of local weak solutions, which can be extended globally provided the damping term dominates the source in an appropriate sense. Moreover, a blow-up result is proved for solutions with negative initial total energy. (Received September 04, 2015)