1011-35-115 **Grozdena Todorova** (todorova@math.utk.edu) and **Borislav Yordanov*** (yordanov@math.utk.edu). *The asymptotic behavior of energy for wave equations with nonlinear dissipative terms in R^n.*

We study the asymptotic behavior of energy for wave equations of the form $u_{tt} - \Delta u + |u_t|^{m-1}u_t = 0$ in R^n. We consider dimensions $n \geq 3$ and nonlinear dissipations satisfying $1 < m < (n+2)/(n+1)$. The main result is that the energy of u decays like t^{-a}, where a is a function of m and n. (Received August 19, 2005)