1077-15-493 **Richard A Brualdi*** (brualdi@math.wisc.edu), **Jia-yu Shao**, **Shi-Cai Gong**, **Chang-Qing Xu** and **Guang-Hui Xu**. *On the Extremal Energy of Integral Weighted Graphs.*

Let $\mathcal{T}(n,m)$ and $\mathcal{F}(n,m)$ denote the classes of weighted trees and forests, respectively, of order n with the positive integral weights and the fixed total weight sum m, respectively. In this paper, we determine the minimum energies for both the classes $\mathcal{T}(n,m)$ and $\mathcal{F}(n,m)$. We also determine the maximum energy for the class $\mathcal{F}(n,m)$. In all cases, we characterize the weighted graphs whose energies reach these extremal values. We also solve the similar maximum energy and minimum energy problems for the classes of (0,1) weighted trees and forests. (Received September 05, 2011)