1145-05-535 **Pamela E. Harris*** (peh2@williams.edu), 33 Stetson Court, Williamstown, MA 01267, and **Dalia K. Luque**, **Claudia Reyes Flores** and **Nohemi Sepulveda**. *Broadcast Domination of Triangular Matchstick Graphs and the Triangular Lattice.*

Blessing, Insko, Johnson and Mauretour gave a generalization of the domination number of a graph G called the (t,r) *broadcast domination number* which depends on the positive integer parameters t and r. In this setting, a $v \in V$ is a *broadcast vertex of transmission strength* t if it transmits a *signal* of strength $t-d(u,v)$ to every vertex $u \in V$ with $d(u,v) < t$. Given a set of broadcast vertices $S \subseteq V$, the *reception* at vertex u is the sum of the transmissions from the broadcast vertices in S. The set $S \subseteq V$ is called a (t,r) *broadcast dominating set* if every vertex $u \in V$ has a reception strength $r(u) \geq r$ and for a finite graph G the cardinality of a smallest broadcast dominating set is called the (t,r) broadcast domination number of G. In this talk, we consider the infinite triangular grid graph and define *efficient* (t,r) broadcast dominating sets as those broadcasts that minimize signal waste. Our main result constructs efficient (t,r) broadcasts on the infinite triangular grid graph for all $t \geq r \geq 1$ and provides upper bounds for the (t,r) broadcast domination numbers for triangular matchstick graphs when $(t,r) \in \{(2,1),(3,1),(3,2),(4,1),(4,2),(4,3),(t,t)\}$. (Received September 11, 2018)