1135-VP-3096 **Minh T Vu*** (`minht.vu1993@gmail.com`). *$L(j,k)$-labeling for square cycles.*

Let G be a graph. The distance between two vertices u and v is denoted by $d(u,v)$. Let j,k be positive integers with $j \leq k$. An $L(j,k)$-labeling of G is a mapping f from $V(G)$ to the non-negative integers such that $|f(u)-f(v)| \geq j$ if $d(u,v)=1$, and $|f(u)-f(v)| \geq k$ if $d(u,v)=2$. The span of f is $\max\{|f(u)-f(v)| : u,v \in V(G)\}$. The $L(j,k)$-labeling number of G, denoted by $\lambda_{j,k}(G)$, is the minimum span of all $L(j,k)$-labelings admitted by G. The k-power of an undirected graph G is a graph with the same vertex set as G, in which two vertices are adjacent if their distance in G is at most k. The $L(j,k)$-labeling number of square paths has recently been completely determined. In this talk, we show the exact values of $\lambda_{j,k}(C_n^2)$ for some square cycles C_n^2 and present upper bounds for all other square cycles. We conjecture that these bounds are the exact value for $\lambda_{j,k}$. (Received September 26, 2017)