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Ju Zhou* (zhou@kutztown.edu). *Perfect Matching Transitivity of Graphs.*

An automorphism of a graph $G = (V(G), E(G))$ is a permutation of the vertex set $V(G)$, such that the pair of vertices (u, v) form an edge if and only if the pair $(\sigma(u), \sigma(v))$ also form an edge. A perfect matching transitive graph is a graph such that for any two perfect matching M and N of G , there exists an automorphism of G such that $f(M) = N$. What kinds of graphs are perfect matching transitive? What is the relationship between perfect matching transitive and vertex transitive? What is the relationship between perfect matching transitive and edge transitive? In this talk, the author will talk about some research results about perfect matching transitive graphs. (Received September 26, 2017)