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Kapila G Kottegoda* (kotteg1@ksu.edu). *Spanning tree modulus for secure broadcast games.*

The p -modulus is a general framework for quantifying the richness of a family of objects on a graph. When applied to the family of spanning trees, p -modulus has an interesting probabilistic interpretation. In particular, the 2-modulus problem in this case has been shown to be equivalent to the problem of finding a probability distribution on spanning trees that utilizes the edges of the graph as evenly as possible. For this reason, there is a strong connection between 2-modulus of the family of spanning trees and the edge-disjointness of this family. We use this fact to produce a game-theoretic interpretation of modulus and apply modulus to the problem of minimizing the number of broadcast messages intercepted by an eavesdropper listening on an unknown link. (Received September 20, 2018)