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Caroline Terry* (cterry3@uic.edu). *Zero-one laws for edge weighted graphs.*

Fix integers $k \geq 3$ and $q \geq 2$, and define $\mathcal{L}_q = \{R_1, \dots, R_q\}$ to be the language consisting of q binary relation symbols. For each $n \in \mathbb{N}$, define $F_{k,q}(n)$ to be the set of \mathcal{L}_q -structures with universe $[n] = \{1, \dots, n\}$ such that each R_i is symmetric and irreflexive, and such that for any set of k points $X \subseteq [n]$, $\sum_{x \neq y \in X} |\{i : R_i(x, y)\}| \leq q$. We present results on the approximate asymptotic structure of $F_{k,q}(n)$ for various values of k and q . In special cases of k and q we refine these results to yield a logical 0-1 law. These results generalize existing 0-1 laws for the families of finite K_n -free graphs for $n \geq 3$. This is joint work with Dhruv Mubayi. (Received August 05, 2015)