ADAM VAN TUYL, McMaster University

Algebraic properties of circulant graphs

Let G be the circulant graph $C_n(S)$ with $S \subseteq \{1, 2, \ldots, \lfloor \frac{n}{2} \rfloor\}$. The family of circulant graphs includes both the cycles C_n and the cliques K_n. Let $I(G)$ denote the edge ideal of G in the ring $R = k[x_1, \ldots, x_n]$, and let $\mathrm{Ind}(G)$ denote the simplicial complex associated to $I(G)$ via the Stanley-Reisner correspondence. This talk will be a survey on what is known (and not known) about the algebraic properties of $I(G)$ and the topological properties of $\mathrm{Ind}(G)$.