Saturation Spectrum for Odd Cycles

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A graph G is H-saturated if G contains no copy of H as a subgraph, but the addition of any edge to G produces a copy of H in the graph. Given a fixed order n, it is known that for most graphs F, the size of an H saturated graph can range from linear in n (with low value the saturation number of F) to quadratic in n (with high value the extremal number of F). The saturation spectrum of graph F is the set of all sizes ($|E(G)|$) of F saturated graphs of order n. In this talk we present the complete saturation spectrum of C_5 and provide almost all of the saturation spectrum for any C_{2k+1} with $k \geq 3$.

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