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*Many cliques with few edges*

The problem of maximizing the number of cliques has been studied within several classes of graphs. For example, among graphs on  $n$  vertices with clique number at most  $r$ , the Turán graph  $T_r(n)$  maximizes the number of copies of  $K_t$  for each size  $t$ . Among graphs on  $m$  edges, the colex graph  $\mathcal{C}(m)$  maximizes the number of  $K_t$ 's for each size  $t$ .

In recent years, much progress has been made on the problem of maximizing the number of cliques among graphs with  $n$  vertices and maximum degree at most  $r$ . In this talk, we discuss the edge analogue of this problem: which graphs with  $m$  edges and maximum degree at most  $r$  have the maximum number of cliques? We prove in some cases that the extremal graphs contain as many disjoint copies of  $K_{r+1}$  as can fit, with the leftovers in another component. These remaining edges form a colex graph.