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The Independence Number Project

The independence number can be computed efficiently for many graph classes, either because they are belong to class of graphs where an efficient algorithm exists (for example, claw-free graphs), or because efficiently computable upper and lower bounds predict the value of this invariant. We discuss a project to extend independence number theory and to find new graph classes where the independence number can be efficiently computed. In particular we identify graphs which are "difficult" with respect to existing independence number theory and propose these as motivating problems.