A new generalization of Ramsey number $R(s,t)$

Masashi Shinohara
(Shiga University)

Abstract

In this talk, we propose a new generalization of Ramsey numbers which seems to be untreated in the literature. Instead of requiring the existence of a monochromatic clique, we consider the existence of a clique which avoids one of the colors in an edge coloring. This new number is called complementary Ramsey number. This definition is natural when we consider sub-structures of k-distance sets.

We establish their connections to other combinatorics and determine infinitely many non-trivial complementary Ramsey numbers.

This is a joint work with Akihiro Munemasa.