

Date: October 6, 2020

Speaker: Yuxin Zhou

Title: Balanced forcing for isosceles triangles

Abstract: Let Γ be the hypergraph of isosceles triangles on \mathbb{R}^2 . A countable coloring for Γ is a function from \mathbb{R}^2 to the natural numbers such that no vertices of any isosceles triangle all map to the same color. Under the axiom of choice, existence of a countable coloring for Γ is true. I will introduce my work so far on constructing the balanced forcing poset for Γ . Forcing using the poset over the symmetric Solovay model, we obtain a choiceless model, in which there exists a countable coloring for Γ . Thus, we conclude that the axiom of choice doesn't result from the existence of a countable coloring for Γ .