

Speaker: Ludovic Patey

Title: The strength of the thin set theorems

Abstract: Ramsey's theorem for n -tuples and k -colors asserts for every k -coloring of $[N]^n$ the existence of an infinite monochromatic subset H . Whenever $n \geq 3$, this statement is known to be equivalent to the Arithmetical Comprehension Axiom in reverse mathematics. The community quickly focused on the case $n = 2$.

However, Wang proved that the statement obtained by authorizing more colors in the output H was strictly weaker than ACA in reverse mathematics. The thin set theorem for n -tuples and k -colors asserts for every k -coloring of $[N]^n$, the existence of an infinite subset H avoiding at least one color. In this talk, we will present the recent development about the strength of the thin set theorem.