5 minute talk
DDC Programm, MSRI

Blaise Boissonneau
PhD student of Franziska Jahnke

WWU, Münster

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Interests

Model theory of valued fields, specifically:

- Definability of valuations;
- Links between "combinatorial complexity" and algebraic properties.

Research progress and prospects

Definability of valuations in NIP fields

Shelah's Conjecture: "NIP (pure) fields should be henselian".
Equivalent: "NIP fields should admit a non-trivial henselian valuation defined by one of these formulas".
Johnson: Shelah's conjecture is true for dp-finite fields, the explicit version might hold too.

NTP2 henselian valued fields

Looking for examples to see what an eventual classification of NTP2 henselian valued fields could be.
NIP algebraic extensions of $\mathbb{Q}_p$ are classified. Examples of IP & NTP2 algebraic extensions of $\mathbb{Q}_p$ have been found.
Is $\mathbb{F}_p((\mathbb{Q}))$ NTP2?