

Pseudo T closed fields

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One of the objects of study of model theory are the complete first order theories and their classification. Shelah classified complete first order theories by their ability to encode certain combinatorial configurations. The importance of Shelah's classification theory lies in its ability to provide tools and conceptual frameworks for understanding the structure of mathematical theories and for addressing a wide range of problems in model theory and related areas. His work has influenced numerous subsequent developments in the field and has significantly contributed to advancing knowledge in model theory and related disciplines. In this talk we are going to focus on the class of NTP2 theories (theories without the tree property of the second kind), this class contains strictly the class of simple and NIP theories. In particular we want to study what type of fields are NTP2. We already know that the PAC, PRC and PpC bounded fields are NTP2, we propose a unified framework for studying these fields - the class of pseudo-T-closed fields, where T is an enriched theory of fields. These fields verify a "local global" principle for the existence of points on varieties based on models of T. This approach also enables a good description of some fields equipped with multiple V-topologies, particularly pseudo algebraically closed fields with a finite number of V-topologies. We are going to show how we can use this approach to produce many new examples of NTP2 fields. This talk is a joint work with Silvain Rideau-Kikuchi

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