



KURT GÖDEL RESEARCH CENTER FOR
MATHEMATICAL LOGIC

UNIVERSITÄT WIEN

1090 WIEN, WÄHRINGER STRASSE 25

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INVITATION

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PROJECTIVE SETS AND INNER MODELS

Abstract:

The collection of projective sets of reals is the smallest one containing all the Borel sets and closed under complements and continuous images. The Axiom of Projective Determinacy (PD) is the correct axiom that settles the regularity properties of projective sets. Inner model theory provides a systematic way of studying the projective sets under PD. In this talk, we describe some recent progress in this direction. A key theorem is the following inner-model-theoretic characterization of the canonical model associated to Σ_3^1 :

Let $\mathcal{O}_{\Sigma_3^1}$ be the universal Σ_3^1 subset of u_ω in the sharp codes for ordinals in u_ω . Let $M_{1,\infty}$ be the direct limit of iterates of M_1 via countable trees and let $\delta_{1,\infty}$ be the Woodin cardinal of $M_{1,\infty}$. Then $M_{1,\infty} \upharpoonright \delta_{1,\infty} = L_{u_\omega}[\mathcal{O}_{\Sigma_3^1}]$.

This theorem paves the way for further study of Σ_3^1 sets using inner model theory. It also generalizes to arbitrary Σ_{2n+1}^1 and $M_{2n-1,\infty}$.

THURSDAY, MARCH 9, 2017

Tea at 3:30pm in the KGRC meeting room (room 104)

Talk at 4:00pm in the KGRC lecture room (room 101)

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