A duality approach to Descriptive Set Theory

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Using ideas from synthetic topology, a new approach to descriptive set theory is suggested. The study of point and function classes such as the Borel and Baire hierarchy are reduced to the study of (computable) endofunctors on the category of represented spaces. In this framework, both the Jayne-Rogers theorem and the Banach-Lebesgue-Hausdorff theorem turn out to be instances of a skewed version of Stone duality. The talk is based on joint work with Matthew de Brecht [1, 2].

References
