

- DOROTTYA SZIRÁKI, *Perfect sets and games on generalized Baire spaces*.  
Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Reáltanoda  
u. 13–15, H–1053 Budapest, Hungary.  
*E-mail:* [sziraki.dorottya@renyi.mta.hu](mailto:sziraki.dorottya@renyi.mta.hu).

The generalized Baire space for an uncountable cardinal  $\kappa = \kappa^{<\kappa}$  is the space  ${}^\kappa\kappa$  of functions  $\kappa \rightarrow \kappa$  equipped with the  $<\kappa$ -support topology. The study of the topology and descriptive set theory of these spaces is an active area of research, with close connections to many other areas of set theory and to model theory.

The notions of perfectness, scatteredness and the Cantor-Bendixson hierarchy were first generalized to the setting of generalized Baire spaces by Jouko Väänänen, based on certain games of uncountable length. Starting out from concepts introduced by Geoff Galton, Tapani Hyttinen and Jouko Väänänen, we study some different possible generalizations of these notions. We investigate in detail the connections between these different generalizations and between the games underlying their definitions. For example, we show that Väänänen's generalized Cantor-Bendixson theorem is equivalent to the  $\kappa$ -perfect set property, and is therefore equiconsistent with the existence of an inaccessible cardinal above  $\kappa$ .