Minimal walks and their applications

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The method of *minimal walks* was introduced by S. Todorcevic in [1] where he used it to construct a counterexample to the square bracket partition relation

$$\omega_1 \longrightarrow [\omega_1]^2_{\omega_1}.$$

That is, he constructed a function $c : [\omega_1]^2 \to \omega_1$ such that $c \restriction [A]^2$ is onto ω_1 for any uncountable $A \subseteq \omega_1$. After this, many other applications of the method have been found, not only in combinatorial set theory but also in general topology and in Banach space theory.

In this mini-course we will go over the basic definitions that constitute the method, prove the fundamental facts about minimal walks and explore some of the applications of the method.

References

[1] todorcevic, s. - *Partitioning pairs of countable ordinals*, Acta Math. 159 (1987), 261-294.

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