

Title: The mathematical theory of juggling

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Abstract: This bachelor thesis is concerned with methods of mathematical description of juggling. The main part deals with notation of simulation of throwing balls using integer sequences, so-called siteswaps. It indicates generating, mutual relations and ways of graphic interpretation of these sequences in diagrams. Summarized results with generalization of all possible calculations of juggling sequences according to restrictive aspects are provided in this thesis. Beside usage of combinatorics and graph theory, there are also relations between juggling and braid theory, and change ringing interpreted.

Keywords: juggling, sequence, siteswap