New Results on Circular Nim

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A Circular Nim game is a two-player impartial combinatorial game played on $n$ stacks of tokens placed in a circle. A move consists of choosing $k$ consecutive stacks and taking at least one token from one or more of the $k$ stacks. Typical questions are whether there is a strategy for one of the two players that allows this player to win no matter how the other player plays. This question is answered by determining the set of losing positions. We previously presented results on the losing positions for most games with $n \leq 6$. In this talk, we will showcase new results for $n = 7$ and discuss some of the complexities of this game.

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