1163-L5-1417     **Andrew Sward** (`andrewsward@augustana.edu`), 1520 32nd St., Rock Island, IL 61201, **Duc Pham\*** (`ducmpham17@augustana.edu`), 3206 8th Ave, Rock Island, IL 61201, and **April Tran** (`chitran17@augustana.edu`), 628 42nd St, Rock Island, IL 61201. *Cyclical Tetris.* Preliminary report.

Cyclical Tetris is a way of playing Tetris with a repeatable pattern of pieces. Given such a pattern of pieces, is it possible to play that pattern forever? We investigate all patterns of length 2 and 3 using a genetic algorithm AI to play the patterns and identify patterns that may not be infinitely playable. We examine some such patterns rigorously to show that they are in fact unplayable on certain board widths. In particular we show the SZ pattern is impossible to play on any boards of width congruent to 2 (mod 4). (Received September 15, 2020)