1145-05-876 **Brice Huang*** (`bmhuang@mit.edu`), 500 Memorial Drive #434, Cambridge, MA 02139. *Cyclic Descents for General Skew Tableaux.*

A cyclic descent function on standard Young tableaux of size n is a function that restricts to the usual descent function when n is omitted, such that the number of standard Young tableaux of given shape with cyclic descent set $D \subset [n]$ is invariant under any modulo n shift of D. The notion of cyclic descent was first studied for rectangles by Rhoades, and then generalized to certain families of skew shapes by Adin, Elizalde, and Roichman. Adin, Reiner, and Roichman proved that a skew shape has a cyclic descent map if and only if it is not a connected ribbon. Unfortunately, their proof is nonconstructive; until now, explicit cyclic descent maps are known only for small families of shapes.

In this paper, we construct an explicit cyclic descent map for all shapes where this is possible. We thus provide a constructive proof of Adin, Reiner, and Roichman's result. Our construction of a cyclic descent map generalizes many of the constructions in the literature. (Received September 16, 2018)