

1155-57-89

Charles Frohman* (charles-frohman@uiowa.edu), Professor, and **Adam Sikora** (asikora@buffalo.edu). *Classifying SL_3 -webs in finite type surfaces up to isotopy.*

An SL_3 -web is a trivalent graph whose edges have been oriented so that each vertex is a source or sink, embedded in a finite type surface F . A web is non-elliptic if none of its components is a simple closed curve bounding a disk or contains a bigon, or quadrigon that bounds a disk. Nonelliptic SL_3 -webs are a basis for the coordinate ring of the $SL_3\mathbb{C}$ -character variety of the fundamental group of the underlying surface. Given an ideal triangulation of the surface F we find coordinates for the set of isotopy classes of non-elliptic SL_3 -webs in F . The coordinates consist of two counting numbers for each edge of the ideal triangulation on one integer for each ideal triangle.

The SL_3 -skein algebra is a noncommutative algebra having the same basis as the coordinate ring of the SL_3 -character variety where the multiplication comes from stacking webs in $F \times [0, 1]$. Using these coordinates we prove the the SL_3 -skein algebra of a finite type surface is finitely generated (affine), by imitating the proof of the Hilbert basis theorem. (Received December 31, 2019)