

1116-57-1562

Carmen L Caprau* (ccaprau@csufresno.edu), Department of Mathematics, California State University, Fresno, 5245 North Backer Avenue, M/S PB 108, Fresno, CA 93740. *On the $sl(n)$ homology theory*. Preliminary report.

This talk will focus on recent progress on providing a purely combinatorial foam construction of an integral $sl(n)$ link homology for $n > 3$, which corresponds (to some degree) to a Frobenius extension of rank n . Oriented 4-valent planar graphs and dotted foams (singular cobordisms between 4-valent planar graphs) modulo a set of local relations play a central role in our construction.

Several years ago, the author was able to partially construct the desired homology theory and proved that it is invariant under the Reidemeister moves of type I and II. In this talk we will discuss some modifications/additions to our construction that are needed in order to obtain a homology theory which is invariant under the Reidemeister move of type III, as well. (Received September 20, 2015)