

1116-57-1883

**J. Scott Carter\*** ([carter@southalabama.edu](mailto:carter@southalabama.edu)), Department of Mathematics and Statistics,  
ILB 325, Mobile, AL 36688. *Foams and homology*. Preliminary report.

An  $n$ -dimensional foam is modeled on the space that is a deformation retraction of an  $(n + 1)$  dimensional simplex that has had its vertices removed. These  $n$ -foams potentially can be knotted in  $(n + 2)$ -dimensional spaces. In such knottings, we can co-orient the sheets, and write down a presentation for the fundamental group. It depends upon relations at junctions and relations at crossings. The group leads us to consider an algebraic structure that has a homology theory. Homology cycles correspond to knottings up to a cobordism-like relation. The homology simultaneously generalizes group and quandle homology. (Received September 21, 2015)