

1039-57-79

Carmen L Caprau* (ccaprau@csufresno.edu), Department of Mathematics, 5245 North
Backer Avenue M/S PB108, Fresno, CA 93740-8001. *The universal $sl(2)$ -link cohomology via webs
and foams.*

We introduce a geometric approach to the universal $sl(2)$ -link cohomology that corresponds to a Frobenius system given by $\mathbb{Z}[i][X, h, t]/(X^2 - hX - t)$. The construction uses webs and singular cobordisms between them (called foams) modulo local relations, and categorifies the unnormalized Jones polynomial. Moreover, the theory is properly functorial under link cobordisms, yielding an invariant for surface-knots. (Received March 06, 2008)