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Carmen L Caprau* (ccaprau@csufresno.edu), Department of Mathematics, 5245 North Backer Avenue, M/S PB 108, Fresno, CA 93740. *On the filtered $sl(2)$ foam cohomology for links.* Preliminary report.

The universal $sl(2)$ foam cohomology is a bigraded link cohomology theory that corresponds to a Frobenius algebra structure defined on $\mathbb{Z}[X, i, a, h]/(X^2 - hX - a)$, where a and h are formal parameters and i is the primitive fourth root of unity. This theory is constructed via a setup with webs and foams (seamed cobordisms) modulo a finite set of relations.

Given an oriented link L and letting a and h be complex numbers such that $f(X) = X^2 - hX - a$ has two distinct roots, we obtain a filtered invariant for L , denoted by $H_{a,h}(L, \mathbb{C})$. In this talk we will focus on the existence of a spectral sequence converging to $H_{a,h}(L, \mathbb{C})$ with E_1 -page isomorphic to Khovanov's $sl(2)$ invariant over \mathbb{C} . The E_1 and higher terms of this spectral sequence are invariants of L . Moreover, one can obtain a Rasmussen-type invariant via the foam setting, by using the above spectral sequence. (Received September 07, 2009)