Meeting: 1001, Evanston, Illinois, SS 13A, Special Session on Algebraic Topology: Interactions with Representation Theory and Algebraic Geometry

1001-55-231 **Kristen Joy Schemmerhorn*** (kschemmerhorn@albion.edu), Albion College, Department of Mathematics and C.S., Albion, MI 49224. *The p-adic K-theory of the Bousfield-Kuhn Functor.*

We are interested in $K^*(\phi_1 X; \mathbb{Z}_p)$, where ϕ_1 is the Bousfield-Kuhn functor at $n = 1$. Because we have a description of all of the unstable operations on $K^*(-; \mathbb{Z}_p)$, we can determine the effect of the Bousfield-Kuhn functor on the unstable operations. This gives us a spectral sequence

$$L_s Q_\theta(K^*(X; \mathbb{Z}_p))^t \Longrightarrow K^{t-s}(\phi_1 X; \mathbb{Z}_p),$$

where L_s is defined to be the non-abelian derived functors, $Q_\theta(-) = \mathbb{Z}_p \otimes_{\mathbb{Z}_p[\theta^p]} Q(-)$, and Q is the indecomposables functor. We then use this spectral sequence to compute $K^*(\phi_1 S^m; \mathbb{Z}_p)$ when $m > 2$. (Received August 27, 2004)