1054-57-293 Jeffrey T Boerner* (jboerner@math.uiowa.edu), 14 MacLean Hall, Iowa City, IA 52245, and Paul Drube, 14 MacLean Hall, Iowa City, IA 52245. Generalized skein modules of surfaces.
Asaeda and Frohman examined the Bar-Natan skein module of surfaces embedded in a 3-manifold. This particular skein module comes from the TQFT associated to Khovanov homology. This TQFT is a particular example of a more general TQFT examined by Khovanov, among others. The general TQFT gives rise to a general skein module of surfaces, where the Bar-Natan skein module is a particular instance.

We will explore this general skein module of surfaces. Our exploration leads us to results relating the topology of the 3-manifold to independence of particular sets of surfaces in the skein module. We also examine certain families of the general skein module that yield interesting results. (Received September 15, 2009)