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The Universal Khovanov Link Homology Theory—Extracting Algebraic Information

In this talk I will present the universal Khovanov link homology theory $(n = 2)$. This theory is developed using the full strength of the geometric formalism of Khovanov link homology theory and has many computational and theoretical advantages. The universal theory answers questions regarding the amount of algebraic information held within the complex associated to a link. It also answers questions regarding the extraction of this information by giving control over the various TQFTs applied to the complex (along with control over other gadgets such as the various spectral sequences related to these TQFTs). After a brief overview and some reminders I will introduce the major tools and ideas used in developing the universal theory (such as surface classification, genus generating operators, complex isomorphisms and "promotions"). Then, I will present some of the advantages of such a theory, time permitting (more on the topic can be found at arXiv:GT/0603347).