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Homomorphisms between cell modules of the endomorphisms ring of a Bott-Samelson bimodule.

In this talk we explain how the endomorphisms ring of a Bott-Samelson bimodule fits into the framework of graded cellular algebras. Then, we show how to construct certain injective homomorphisms between cell modules. This allows us to provide a proof of the monotonicity conjecture for Kazhdan-Lusztig polynomials.