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On the annular refinement of Khovanov homology

In 2006, Plamenevskaya proved that the homology class of a distinguished element in Khovanov homology is an invariant of transverse links. In this talk I will define an annular refinement of this element, kappa. Kappa is a conjugacy class invariant of braids. We will see applications of kappa relating to transverse links, properties of braids, and the word problem in the braid group. This work is joint with Adam Saltz.