1116-57-1931 **Katherine Vance*** (kvance@rice.edu). *Tau invariants for balanced spatial graphs and applications to link cobordisms.*

In 2003, Ozsvath and Szabo defined the concordance invariant τ for knots in oriented 3-manifolds as part of the Heegaard Floer homology package. In 2011, Sarkar gave a combinatorial definition of τ for knots in S^3 and a combinatorial proof that τ gives a lower bound for the slice genus of a knot. Recently, Harvey and O'Donnol defined a relatively bigraded combinatorial Heegaard Floer homology theory for transverse spatial graphs in S^3, extending HFK for knots. We define a $\mathbb{Z}$-filtered chain complex for balanced spatial graphs whose associated graded chain complex has homology determined by Harvey and O'Donnol's graph Floer homology. We use this to show that there is a well-defined τ invariant for balanced spatial graphs generalizing the τ knot concordance invariant. In particular, this defines a τ invariant for links in S^3. Using techniques similar to those of Sarkar, we show that our τ invariant is an obstruction to a link being slice. (Received September 21, 2015)