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On anticyclotomic Iwasawa theory of Hecke characters for ordinary primes

Iwasawa theory is an area of Number Theory that was named after the fundamental work of Kenkichi Iwasawa in the late 1950s and onward. Classically, it is concerned with the growth of arithmetically interesting objects, such as class groups, Mordell-Weil and Tate-Shafarevich groups, or more generally Selmer groups, in $\mathbb{Z}_p$-power-extensions of a number field (or in modern days, any p-adic families, such as the ones constructed by Hida and Coleman).

In this talk, I will first introduce Nekovar's theory of Selmer complexes, which allows us to study the Selmer groups in the framework of derived categories. We then explore a consequence towards the anticyclotomic Iwasawa main conjecture for CM Hilbert modular forms using Nekovar's descent formalism of Selmer complexes (as a generalization of the main results of Agboola - Howard and T. Arnold on CM elliptic curves and self-dual CM modular forms, respectively).