$p^r$-Selmer companion modular forms

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Abstract

Given two elliptic curves $E_1$ and $E_2$ over a number field $K$, Mazur and Rubin have defined them to be $n$-Selmer companion if for every quadratic twist $\chi$ of $K$, the $n$-Selmer group of $E_1^\chi$ and $E_2^\chi$ over $K$ are isomorphic. We will discuss an analogue of this for modular forms.

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