

# On the construction of elements in the Iwasawa cohomology of Galois representations for $\mathrm{GSp}(2n) \times \mathrm{GSp}(2n)$

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The study of arithmetic invariants associated to Galois representations has often relied on the construction of a special family of elements in their Galois cohomology groups. For instance, it has been a crucial ingredient in the work of Kato in the proof of special cases of the conjecture of Birch and Swinnerton-Dyer and the Iwasawa main conjecture for modular forms.

In this talk, we describe how to construct elements in the Iwasawa cohomology of Galois representations associated to a product of two cohomological cuspidal automorphic representations of the similitude symplectic group  $\mathrm{GSp}_{2n}$ , and, thus, p-adic L-functions using Perrin-Riou's machinery. This construction generalises the one given by Lei-Loeffler-Zerbes when  $n = 1$ .

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