1145-11-429 **Alice Pozzi*** (`alice.pozzi89@gmail.com`), Flat 34, Bullen House, Collingwood Street, London, E1D5Y. *The eigencurve at weight one Eisenstein points.* Preliminary report.

In 1972, Serre observed that the Hecke eigenvalues of Eisenstein series can be p-adically interpolated. In other words, Eisenstein series can be viewed as a p-adic family parametrized by the weight. The notion of p-adic variations of modular forms was later generalized by Hida to include families of ordinary cuspforms. In 1998, Coleman and Mazur defined the eigencurve, a rigid analytic space that, loosely speaking, encodes much more general p-adic families of Hecke eigenforms parametrized by the weight. However, many geometric properties of the eigencurve are still misterious. In this talk, we will describe the local nature of the eigencurve at some particular points corresponding to weight one forms. We consider weight one Eisenstein series that are irregular at a fixed prime p. Such forms are not cuspidal in a classical sense, but they become cuspidal when viewed as p-adic modular forms. Thus, they give rise to points that belong to the intersection of the Eisenstein locus and the cuspidal locus of the eigencurve. Following the approach of Bellaiche and Dimitrov in the weight one cuspidal case, we study this intersection via deformations of Galois representations. (Received September 06, 2018)