

BOSTON UNIVERSITY NUMBER THEORY SEMINAR

# Local $\varepsilon$ -isomorphisms in families

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Monday, Sept 14 at 4:15 pm  
111 Cummington Street, MCS B21  
Tea and cookies in MCS 144 at 4:00 pm

**Abstract:** Given a representation of  $\text{Gal}_{\mathbf{Q}_p}$  with coefficients in a  $p$ -adically complete local ring  $R$ , Fukaya and Kato have conjectured the existence of a canonical trivialization of the determinant of a certain cohomology complex. When  $R = \mathbf{Z}_p$  and the representation is a lattice in a de Rham representation, this trivialization should be related to the  $\varepsilon$ -factor of the corresponding Weil–Deligne representation. Such a trivialization has been constructed for certain crystalline Galois representations, by the work of a number of authors. I will explain how to extend these trivializations to certain families of crystalline Galois representations. This is joint work with Otmar Venjakob.