

Speaker:

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Title:

The Level-Zero Jacquet-Langlands Correspondence
in the Parabolic Induction Case:
 $D_{2d}^\times \leftrightarrow M_2(D_d)^\times$

Abstract:

The Abstract Matching Theorem of Badulescu, Deligne, Kazhdan, and Vignéras asserts the existence of a bijective match-up (the Jacquet-Langlands correspondence) between the discrete series of the unit groups of the various central simple algebras of the same reduced degree over a p-adic field which preserves character values on the regular elliptic sets up to a known sign. In general, there are three ways to parameterize a non-cuspidal discrete series representation of an algebra's unit group. The first is to assign a representation its Langlands parameter, which comes from the division algebra via the Jacquet-Langlands mapping. The second parameter comes from an "extended type representation," which also carries a Langlands datum as a natural parameter. The third is to give the discrete series as a component of an induced representation and assign the representation the Langlands parameter of its supercuspidal base representation. It is not true in general that these three parameterizations agree for a given representation; they may differ by involutive unramified twists. In the level-zero case Silberger and Zink (Crelle 2005) have given the twist required to match the Langlands parameter of the extended type to the true Langlands parameter of the representation. There is a commutative diagram in the paper of DKV which makes it possible to match the parameter of the induced representation component to the true parameter. However, the present lecture will give an explicit determination of the twist in this case, which does not refer back to AMT for its justification. This has been worked out in only the division algebra to 2×2 algebra, as mentioned in the title.