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Explicit Plancherel Measure for PGL_2 over a p-adic field.

Computing an explicit Plancherel measure for a reductive group over the p-adic field has been a difficult task. A general theory has been developed in a joint paper by G.Henniart, C.Bushnell and P.Kutzko on computation of the Plancherel measure. The main ideas are to decompose $\hat{G}$ into a union $G = \cup_{\mathfrak{s}\in\mathfrak{B}(G)} G(\mathfrak{s})$ where elements in $\mathfrak{B}(G)$ correspond to Bernstein components. We then know that we can identify each set $G(\mathfrak{s})$ with the unitary dual of a Hecke algebra $\mathcal{H}(G,\lambda)$ where (J,λ) is an $\mathfrak{s}$-type in the sense of Bushnell and Kutzko. Then the Hecke algebras can be seen as Hilbert algebras and they have a corresponding Plancherel measure that is related to the Plancherel measure in $\hat{G}$ in a very explicit way. I will approach the problem of computing the Plancherel measure for $\mathrm{PGL}_2(F)$ using the method described above. (Received September 22, 2011)