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Paul Frank Baum* (baum@math.psu.edu). *Extended Quotients and Kazhdan-Lusztig Parameters.*

Let \mathcal{G} be a reductive p -adic group. Examples are $GL(n, F), SL(n, F)$ where n can be any positive integer and F can be any finite extension of the p -adic numbers \mathbb{Q}_p . G denotes the Langlands dual group. G is an algebraic group over the complex numbers \mathbb{C} . The smooth dual of \mathcal{G} is the set of (equivalence classes of) smooth irreducible representations of \mathcal{G} . The smooth dual of \mathcal{G} is the disjoint union of subsets known as the Bernstein components. The ABP (Aubert-Baum-Plymen) conjecture states that each Bernstein component is a complex affine algebraic variety and identifies these varieties as certain extended quotients. If \mathcal{G} has connected center Kazhdan-Lusztig parametrize the Bernstein component consisting of those irreducible smooth representations of \mathcal{G} having a non-zero vector fixed by the Iwahori subgroup. According to ABP these Kazhdan-Lusztig parameters should have the structure of the relevant extended quotient. Is this true? This talk will explain why this is true. Most of the work of the proof is with the Langlands dual group G . The above is joint work with Anne-Marie Aubert and Roger Plymen. (Received September 09, 2011)