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Paul Frank Baum* (pxb6@psu.edu), Department of Mathematics, Penn State University,
University Park, PA 16802. *Geometric Structure in Smooth Dual.*

Let G be a connected split reductive p -adic group. Examples are $GL(n, F)$, $SL(n, F)$, $SO(n, F)$, and $Sp(2n, F)$ where n can be any positive integer and F can be any finite extension of the field Q_p of p -adic numbers. The smooth (or admissible) dual of G is the set of equivalence classes of smooth irreducible representations of G . The smooth dual of G is the disjoint union of subsets known as the Bernstein components.

The talk will explain the ABPS (Aubert-Baum-Plymen-Solleveld) conjecture which states that each Bernstein component is a complex affine variety. Each of these complex affine varieties is explicitly identified as the extended quotient associated to the given Bernstein component.

The ABPS conjecture has been proved for $GL(n, F)$, $SL(n, F)$, $SO(n, F)$, and $Sp(2n, F)$. The above is joint work with Anne-Marie Aubert, Roger Plymen, and Maarten Solleveld. (Received September 10, 2015)