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Annegret Paul* (annegret.paul@wmich.edu). *Unitary Principal Series of $SO(n+1, n)$* . Preliminary report.

The set of spherical complementary series of split classical groups is known due to Barbasch. Using an extension of his idea of “petite” K -types, we obtain an embedding of all unitary minimal principal series (not necessarily spherical) representations of $SO(n+1, n)$ into the (known) set of unitary spherical parameters for certain smaller split orthogonal groups. By an earlier result, we have an embedding of the set of genuine unitary minimal principal series of the metaplectic group into the same known set of parameters. In both cases, we conjecture that the injection is, in fact, a bijection. In particular, we expect that there is a natural bijection between the complementary series of $SO(n+1, n)$ and the genuine complementary series of $Mp(2n, \mathbb{R})$. We explore both similarities and differences between the two situations. This is joint work with A. Pantano and S. Salamanca-Riba. (Received August 30, 2011)