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### **Iwasawa Decomposition for Lie Superalgebras**

Let  $\mathfrak{g}$  be a basic simple Lie superalgebra over an algebraically closed field of characteristic zero, and  $\theta$  an involution of  $\mathfrak{g}$  preserving a nondegenerate invariant form. We prove that at least one of  $\theta$  or  $\delta \circ \theta$  admits an Iwasawa decomposition, where  $\delta$  is the canonical grading automorphism  $\delta(x) = (-1)^{\bar{x}}x$ . The proof uses the notion of generalized root systems as developed by Serganova, and follows from a more general result on centralizers of certain tori coming from semisimple automorphisms of the Lie superalgebra  $\mathfrak{g}$ .

**Keywords:** Lie superalgebras, symmetric pairs, root systems.

**MSC:** 17B22, 17B20, 17B40.