1011-94-289 **Jon-Lark Kim*** (jl.kim@louisville.edu), 328 Natural Sciences Building, Department of Mathematics, University of Louisville, Louisville, KY 40292, and **Judy Walker** (jwalker@math.unl.edu), 332 Avery Hall, Department of Mathematics, University of Nebraska – Lincoln, Lincoln, NE 68588. *s-Extremal Additive GF(4) Codes.* Preliminary report.

Binary self-dual codes and additive self-dual codes over GF(4) have in common interesting properties, for example, Type I, Type II, shadows, etc. Recently Bachoc and Gaborit introduced the notion of s-extremal codes for binary self-dual codes, generalizing Elkies' study on the highest possible minimum weight of the shadow of binary self-dual codes. So it is natural to ask whether there can be a concept of s-extremal codes for additive self-dual codes over GF(4).

In this talk, we introduce a concept of s-extremal codes for additive self-dual codes over GF(4), classify them up to minimum distance $d = 4$, and give possible lengths for which there exist s-extremal codes with $5 \leq d \leq 11$. (Received August 29, 2005)