The Electronic Journal of Linear Algebra.
A publication of the International Linear Algebra Society.
Volume 5, pp. 1-10, January 1999.
ISSN 1081-3810. http://math.technion.ac.il/iic/ela

ELA

AN EXTENSION OF A RESULT OF LEWIS*

TIN-YAU TAM†

Abstract. A result of Lewis on the extreme properties of the inner product of two vectors in a Cartan subspace of a semisimple Lie algebra is extended. The framework used is an Eaton triple which has a reduced triple. Applications are made for determining the minimizers and maximizers of the distance function considered by Chu and Driessel with spectral constraint.

Key words. Eaton triple, reduced triple, finite reflection group

AMS subject classifications. 15A42

*Received by the editors on 3 August 1998. Accepted for publication on 1 January 1999. Handling Editor: Danny Hershkowitz.

†Department of Mathematics, 218 Parker Hall Auburn University, Auburn, AL 36849-5310, USA (tamtiny@mail.auburn.edu, http://www.auburn.edu/~tamtiny). Dedicated to Hans Schneider on the occasions of his 70th birthday and retirement.