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A METHOD TO FIND GENERATORS OF A FUZZY LIE GROUP

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ABSTRACT

This paper presents a method to find generators of a fuzzy Lie group. By utilizing the algebraic and geometric properties of fuzzy Lie groups, we derive a systematic approach to identify a set of elements that generate the entire group. The methodology is rooted in the theory of fuzzy control sets and fuzzy Weyl group actions on fuzzy homogeneous spaces. Examples from $SL(2,\mathbb{R})$ and $SO(3)$ and applications in theoretical physics and differential geometry are provided to illustrate the utility of the method.

KEYWORDS: *Fuzzy Lie Group*

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