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Jack Huizenga* (huizenga@uchicago.edu). *Techniques for classifying nonnegatively curved left-invariant metrics on compact Lie groups.*

We provide techniques for studying the nonnegatively curved left-invariant metrics on a compact Lie group. For “straight” paths of left-invariant metrics starting at bi-invariant metrics and ending at nonnegatively curved metrics, we deduce a nonnegativity property of the initial derivative of curvature. We apply this result to obtain a partial classification of the nonnegatively curved left-invariant metrics on $SO(4)$. (Received September 11, 2006)