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Section:

2. Algebra

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Almost Convexity of a Certain Nilpotent Group

Let G be a group generated by (g_i), and let $S(n)$ be the sphere of radius n in the Cayley graph of G constructed with (g_i). Choose any two elements g and g' in $S(n)$ two units apart. If a connecting path exists between them of length bounded by p, with p independent of n, we say that G is almost convex. The nilpotent group $(x, y | [[x, [x, y]], x] = [[x, [x, y]], y] = [[x, y], y] = 1)$ can be shown to be almost convex using geometric methods.

Referemce: R. Jewett and S. Plotnick *Almost Convexity of Certain Nilpotent Groups* (preprint)