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**Joseph A. Vandehey\*** (vandehey@uga.edu). *Continued fractions and the Heisenberg group.*

The connections between continued fractions and one-dimensional complex hyperbolic space are both classical and powerful, but both multi-dimensional continued fractions and higher-dimensional complex hyperbolic spaces are still comparatively mysterious. We will discuss some new work studying continued fractions on the Heisenberg group, their surprising strengths compared to other multi-dimensional continued fraction algorithms, and how these relate to complex hyperbolic space. Included in our discussion will be Diophantine approximation on the Heisenberg group and a study on points with periodic continued fraction expansions. (Received August 08, 2015)