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Konrad Aguilar and **Samantha Brooker*** (samjobrooker@gmail.com). *Finite-Dimensional Quantum Metric Spaces*. Preliminary report.

According to K. Aguilar and F. Latrémolière, approximately finite-dimensional C^* -algebras (AF algebras) can be endowed with a quantum metric, which then allows one to prove that AF algebras are limits of finite-dimensional quantum metric spaces for a noncommutative version of the Gromov-Hausdorff distance, named the quantum Gromov-Hausdorff propinquity. Our research concerns the geometry, for this propinquity, of the class of these finite-dimensional quantum metric spaces. We have established thus far that several of these spaces are not isometric quantum metric spaces. The examples that we studied are described via full matrix algebras endowed with various quantum metrics, and we prove that no automorphism of the full matrix algebra can carry one quantum metric to another. We hope that our work is a first step in establishing lower bounds on the propinquity between these finite-dimensional quantum metric spaces, which in general are difficult to establish. (Received September 25, 2017)