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Guanajuato, Guanajuato, Mexico. *Strong pseudoconvexity in infinite dimension.*

After an introduction to some relevant complex geometric analysis concepts, I will give a motivation to study strong pseudoconvexity in infinite dimension. Then I will present a general definition, as well as equivalent ones under special conditions, inspired by concepts from Banach space theory, such as strict and uniform convexity. Also, I will provide some examples and counterexamples to strict pseudoconvexity in the infinite-dimensional setting, that are actually balls of some classical Banach spaces. Finally, I will discuss some relationships between strong pseudoconvexity and the cluster value problem in Banach spaces. (Received September 20, 2016)