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**Jameson Cahill\*** (jcahill@math.duke.edu) and **Dustin G. Mixon**. *Robust width: A characterization of uniformly stable and robust compressed sensing.*

Compressed sensing seeks to invert an underdetermined linear system by exploiting additional knowledge of the true solution. Over the last decade, several instances of compressed sensing have been studied for various applications, and for each instance, reconstruction guarantees are available provided the sensing operator satisfies certain sufficient conditions. In this talk, we completely characterize the sensing operators which allow uniformly stable and robust reconstruction by convex optimization for many of these instances. (Received September 14, 2014)