1116-94-2952 **Simon Foucart***, foucart@tamu.edu. *Sparse recovery from saturated measurements.*

In classical Compressive Sensing, one aims at faithfully reconstructing high-dimensional but sparse vectors $\mathbf{x} \in \mathbb{R}^N$ from the knowledge of few measurements of the type $y_i = \langle \mathbf{a}_i, \mathbf{x} \rangle$, $i = 1, \ldots, m$. In one-bit Compressive Sensing, the measurements are quantized to an extreme situation where $y_i = \mathrm{sign}\langle \mathbf{a}_i, \mathbf{x} \rangle$, $i = 1, \ldots, m$. In this talk, we consider an hybrid situation where the linear measurements $\langle \mathbf{a}_i, \mathbf{x} \rangle$ can be conventionally acquired unless their magnitude exceeds a given threshold, in which case they are saturated to this threshold. We present a theory of sparse recovery from such measurements that unites classical and one-bit Compressive Sensing. In particular, we establish a property akin to the restricted isometry property and to the sign product embedding property for random measurements. Under this property, we demonstrate the suitability of recovery algorithms stemming from ℓ_1-minimization and from iterative hard thresholding. (Received September 23, 2015)