1106-15-1993 **Christopher J Hillar*** (chillar@berkeley.edu), Redwood Center for Theoretical Neuroscience, University of California, Berkeley, 575A Evans Hall, MC 3198, Berkeley, CA 94720, **Shaowei Lin**, Institute for Infocomm Research, Singapore, and **Andre Wibisono** (wibisono@berkeley.edu), University of California, Berkeley, EECS, Berkeley, CA 94720. *Tight bounds on the infinity norm of inverses of symmetric diagonally dominant positive matrices.*

We prove tight bounds for the infinity norm of the inverse of symmetric diagonally dominant positive matrices. Applications include numerical stability for linear systems, bounds on inverses of differentiable functions, and the consistency of maximum entropy graph distributions from single samples. Our work was inspired by sensory coding in theoretical neuroscience and we discuss some of the implications of our bounds in this setting. (Received September 15, 2014)