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David Cai* (cai@cims.nyu.edu), Courant Institute, New York University, 251 Mercer Street,
New York, NY 10012. *Stochastic Operating Point for the Dynamics of the Primary Visual Cortex.*

We discuss our large-scale (1 million neurons) computational modeling of the primary visual cortex (V1). In particular, we describe an intermittent depressed state as a possible stochastic operating point of the V1 dynamics. Under this operating point, we further discuss possible network mechanisms underlying spatiotemporal dynamics associated with spontaneous on-going activity of the V1 and the line-motion illusion — which is the illusory motion sensation from a static cue of a flashed stationary square quickly followed by a stationary bar. Furthermore, we use a new analysis of coarse-grained stochastic event-chains to demonstrate the fine discriminability of orientation of V1. (Received September 14, 2010)