A full-density multi-layered multi-area model of macaque visual cortex

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The contribution presents a spiking network model of all vision-related areas of macaque cortex that represents each area by a full-density microcircuit with area-specific architecture. The population-resolved network connectivity integrates axonal tracing data and is systematically refined using dynamical constraints. Simulations reveal a stable asynchronous irregular ground state with heterogeneous activity across areas, layers, and populations. Cortico-cortical interaction patterns agree well with fMRI resting-state functional connectivity. The model bridges the gap between local and large-scale accounts of cortex and provides a framework for studying the interaction offeedforward and feedback processing.