

- Jones R, Keck MJ (1978) Visual evoked response as a function of grating spatial frequency. *Invest Ophthalmol Vis Sci* 17:652–659.
- Kaplan E, Mukherjee P, Shapley R (1993) Information filtering in the lateral geniculate nucleus. In: *Contrast sensitivity*, Vol 5 (Shapley R, Lam M-K, eds), pp 183–200. Cambridge, MA: MIT.
- Kawano K, Shidara M, Watanabe Y, Yamane S (1994) Neural activity in cortical area MST of alert monkey during ocular following responses. *J Neurophysiol* 71:2305–2324.
- Kiang NY-S, Watanabe T, Thomas EC, Clark LF (1965) Discharge patterns of single fibers in the cat's auditory nerve. Cambridge, MA: MIT.
- Kiang NY-S, Lieberman MC, Levine RA (1976) Auditory-nerve activity in cats exposed to ototoxic drugs and high-intensity sounds. *Ann Otol Rhinol Laryngol* 85:752–768.
- Kuffler SW (1953) Discharge patterns and functional organization of mammalian retina. *J Neurophysiol* 16:37–68.
- Lagae L, Raiguel S, Orban GA (1993) Speed and direction selectivity of macaque middle temporal neurons. *J Neurophysiol* 69:19–39.
- Lapicque L (1907) Recherches quantitatives sur l'excitation électrique des nerfs traitée comme une polarisation. *J Physiol (Lond)* 9:620–635.
- Lee BB (1996) Receptive field structure in the primate retina. *Vision Res* 36:631–644.
- Lee BB, Pokorny J, Smith VC, Kremers J (1994) Responses to pulses and sinusoids in macaque ganglion cells. *Vision Res* 34:3081–3096.
- Lennie P (2000) Color vision: putting it together. *Curr Biol* 10:R589–R591.
- Lennie P, Haake W, Williams DR (1991) The design of chromatically opponent receptive fields. In: *Computational models of visual processing* (Landy MS, Movshon JA, eds), pp 71–82. Cambridge, MA: MIT.
- Levick WR (1973) Variation in the response latency of cat retinal ganglion cells. *Vision Res* 13:837–853.
- Levitt JB, Schumer RA, Sherman SM, Spear PD, Movshon JA (2001) Visual response properties of neurons in the LGN of normally-reared and visually-deprived macaque monkeys. *J Neurophysiol* 85:2111–2129.
- Lisberger SG, Movshon JA (1999) Visual motion analysis for pursuit eye movements in area MT of macaque monkeys. *J Neurosci* 19:2224–2246.
- Marvášek P, Koch C, Maunsell J (1997) On the relationship between synaptic input and spike output jitter in individual neurons. *Proc Natl Acad Sci USA* 94:735–740.
- Mastrorade DN (1987a) Two classes of single-input X-cells in cat lateral geniculate nucleus. I. Receptive field properties and classification of cells. *J Neurophysiol* 57:357–380.
- Mastrorade DN (1987b) Two classes of single-input X-cells in cat lateral geniculate nucleus. II. Retinal inputs and the generation of receptive-field properties. *J Neurophysiol* 57:381–413.
- Maunsell JHR, Gibson JR (1992) Visual response latencies in striate cortex of the macaque monkey. *J Neurophysiol* 68:1332–1344.
- Maunsell JHR, Van Essen DC (1983) Functional properties of neurons in middle temporal visual area of the macaque monkey. I. Selectivity for stimulus direction, speed, and orientation. *J Neurophysiol* 49:1127–1147.
- Maunsell JHR, Ghose GM, Assad JA, McAdams CJ, Boudreau CE, Noerager BD (1999) Visual response latencies of magnocellular and parvocellular LGN neurons in macaque monkeys. *Vis Neurosci* 16:1–14.
- McIlwain JT, Creutzfeldt OD (1967) Microelectrode study of synaptic excitation and inhibition in the lateral geniculate nucleus of the cat. *J Neurophysiol* 30:1–21.
- Merrill EG, Ainsworth A (1972) Glass-coated platinum-plated tungsten microelectrode. *Med Biol Eng* 10:662–672.
- Middlebrooks JC, Clock AE, Xu L, Green DM (1994) A panoramic code for sound location by cortical neurons. *Science* 264:842–844.
- Mitzdorf U, Singer W (1979) Excitatory synaptic ensemble properties in the visual cortex of the macaque monkey: a current source density analysis of electrically evoked potentials. *J Comp Neurol* 187:71–84.
- Movshon JA, Newsome WT (1996) Visual response properties of striate cortical neurons projecting to area MT in macaque monkeys. *J Neurosci* 16:7733–7741.
- Movshon JA, Thompson ID, Tolhurst DJ (1978) Spatial summation in the receptive fields of simple cells in the cat's striate cortex. *J Physiol (Lond)* 283:53–77.
- Movshon JA, Adelson EH, Gizzi MS, Newsome WT (1985) The analysis of moving visual patterns. In: *Study group on pattern recognition mechanisms* (Chagas C, Gattass R, Gross CG, eds), pp 118–151. Vatican City: Pontificia Academia Scientiarum.
- Movshon JA, Lisberger SG, Krauzlis RJ (1990) Visual cortical signals supporting smooth pursuit eye movements. In: *Cold spring harbor symposia on quantitative biology*, Vol LV, pp 707–716. New York: CSH.
- Nowak LG, Bullier J (1997) The timing of information transfer in the visual system. In: *Cerebral cortex, extrastriate cortex in primates*, Vol 12 (Rockland K, Kaas J, Peters A, eds), pp 205–241. New York: Plenum.
- Nowak LG, Munk MHJ, Girard P, Bullier J (1995) Visual latencies in areas V1 and V2 of the macaque monkey. *Vis Neurosci* 12:371–384.
- Nowak LG, Sanchez-Vives MV, McCormick DA (1997) Influence of low and high frequency inputs on spike timing in visual cortical neurons. *Cereb Cortex* 7:487–501.
- O'Keefe LP, Movshon JA (1998) Processing of first- and second-order motion signals by neurons in area MT of the macaque monkey. *Vis Neurosci* 15:305–317.
- Palmer LA, Davis TL (1981) Receptive-field structure in cat striate cortex. *J Neurophysiol* 46:260–276.
- Parker DM, Salzen EA (1977) Latency changes in the human visual evoked response to sinusoidal gratings. *Vision Res* 17:1201–1204.
- Pettigrew JD, Nikara T, Bishop PO (1968) Responses to moving slits by single units in cat striate cortex. *Exp Brain Res* 6:373–390.
- Porter JT, Johnson CK, Agmon A (2001) Diverse types of interneurons generate thalamus-evoked feedforward inhibition in the mouse barrel cortex. *J Neurosci* 21:2699–2710.
- Press HP, Teukolsky SA, Vetterling WT, Flannery BP (1992) *Numerical recipes in C, the art of scientific computing*, Ed 2. Cambridge: Cambridge UP.
- Qian N, Andersen RA (1994) Transparent motion perception as detection of unbalanced motion signals. 2. Physiology. *J Neurosci* 14:7367–7380.
- Raiguel SE, Lagae L, Gulyás B, Orban GA (1989) Response latencies of visual cells in macaque areas V1, V2 and V5. *Brain Res* 493:155–159.
- Raiguel SE, Xiao D-K, Marcar VL, Orban GA (1999) Response latency of macaque area MT/V5 neurons and its relationship to stimulus parameters. *J Neurophysiol* 82:1944–1956.
- Raymond J, Braddick O (1996) Responses to opposed directions of motion: continuum or independent mechanisms? *Vision Res* 36:1931–1937.
- Reid RC, Alonso JM (1995) Specificity of monosynaptic connections from thalamus to visual cortex. *Nature* 378:281–284.
- Reid RC, Victor JD, Shapley RM (1992) Broadband temporal stimuli decrease the integration time of neurons in cat striate cortex. *Vis Neurosci* 9:39–45.
- Reid RC, Victor JD, Shapley RM (1997) The use of m-sequences in the analysis of visual neurons: linear receptive field properties. *Vis Neurosci* 14:1015–1027.
- Rockland KS (1995) Morphology of individual axons projecting from area V2 to MT in the macaque. *J Comp Neurol* 355:15–26.
- Sanchez-Vives MV, Nowak LG, McCormick DA (2000) Membrane mechanisms underlying contrast adaptation in cat area 17 in vivo. *J Neurosci* 20:4267–4285.
- Saul AB (1995) Adaptation aftereffects in single neurons of cat visual cortex: response timing is retarded by adapting. *Vis Neurosci* 12:191–205.
- Saul AB, Humphrey AL (1990) Spatial and temporal response properties of lagged and nonlagged cells in cat lateral geniculate nucleus. *J Neurophysiol* 64:206–224.
- Schiller PH (1992) The ON and OFF channels of the visual system. *Trends Neurosci* 15:86–92.
- Schmolesky MT, Wang Y, Hanes DP, Thompson KG, Leutgeb S, Schall JD, Leventhal AG (1998) Signal timing across the macaque visual system. *J Neurophysiol* 79:3272–3278.
- Sestokas AK, Lehmkuhle S (1986) Visual response latency of X- and Y-cells in the dorsal lateral geniculate nucleus of the cat. *Vision Res* 26:1041–1054.
- Shapley RM, Victor JD (1978) The effect of contrast on the transfer properties of cat retinal ganglion cells. *J Physiol (Lond)* 285:275–298.
- Sherman SM, Koch C (1986) The control of retinogeniculate transmission in the mammalian lateral geniculate nucleus. *Exp Brain Res* 63:1–20.
- Sillito AM (1975) The contribution of inhibitory mechanisms to the receptive field properties of neurons in the striate cortex of the cat. *J Physiol (Lond)* 250:305–329.
- Singer W, Creutzfeldt OD (1970) Reciprocal lateral inhibition of on- and off-center neurones in the lateral geniculate body of the cat. *Exp Brain Res* 10:311–330.
- Singer W, Pöppel E, Creutzfeldt OD (1970) Inhibitory interactions in the cat's lateral geniculate nucleus. *Exp Brain Res* 14:210–226.
- Skottun BC, De Valois RL, Grosf DH, Movshon JA, Albrecht DG, Bonds AB (1991) Classifying simple and complex cells on the basis of response modulation. *Vision Res* 31:1079–1086.
- Snodderly DM, Gur M (1995) Organization of striate cortex of alert, trained monkeys (*Macaca fascicularis*): ongoing activity, stimulus selectivity, and widths of receptive field activating regions. *J Neurophysiol* 74:2100–2125.
- Sutherland NS (1961) Figural aftereffects and apparent size. *Q J Exp Psychol* 13:222–228.
- Sutter EE (1987) A practical non-stochastic approach to nonlinear time-domain analysis. In: *Advanced methods of physiological systems modeling*, Vol 1 (Marmaerelis V, ed), pp 303–315. Los Angeles, CA: University of Southern California.
- Swadlow HA (1995) Influence of VPM afferents on putative inhibitory interneurons in S1 of the awake rabbit: evidence from cross-correlation,