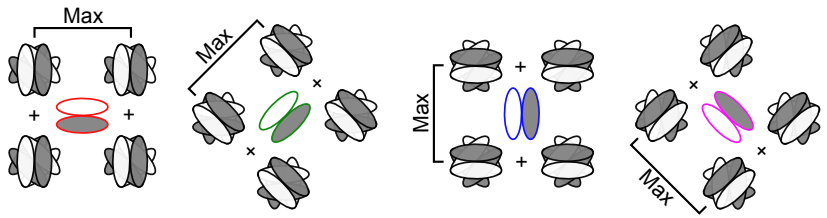
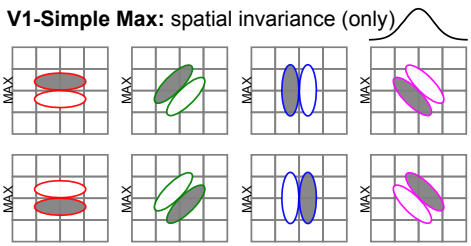
V1 Complex: end stop, length-sum, polarity & spatial invar

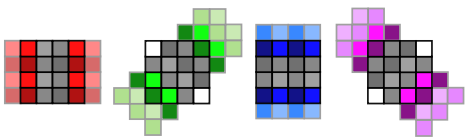
End Stop: orientation contrast, symmetric, polarity & spatial invariance



Length Sum: longer lines, polarity & spatial invariance

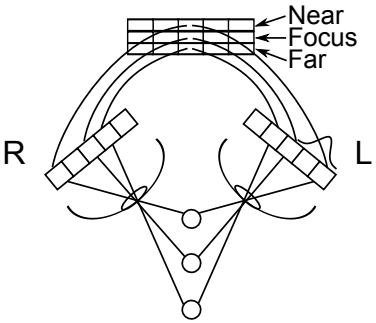
V1-Simple Max: spatial invariance (only)

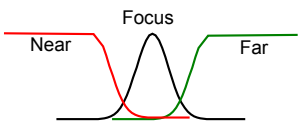




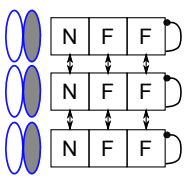
Pre-grouping to reduce computation & improve robustness of complex patterns. Grey = ctr of Gabor (double to ensure all lines sampled). Must be even size due to 1/2 ovlp, hence 4x4

V1 Binocular: Disparity coding



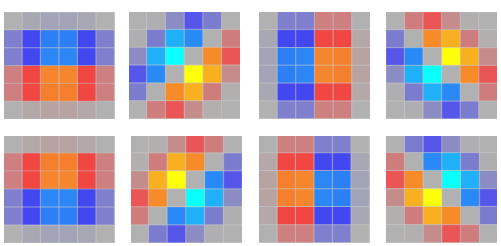


Tuning curves -- ends extend to grab whole range of far disparities

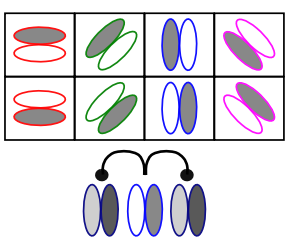


Disparity weights per feature, spread along orientation direction, compete at each location

V1 Simple: Gabors + Motion

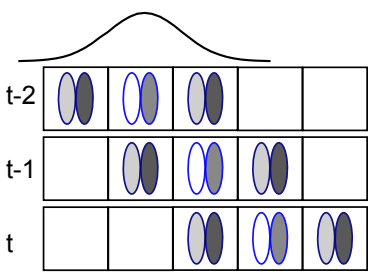


=



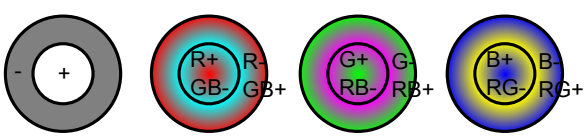
orthogonal neighbor feature inhibition (sharpening)

Motion: trajectory over time slices



right, speed = 1, extra_width = 1

Retina/LGN: Color contrast channels (no spatial contrasts)



luminance | red - cyan | green - magenta | blue - yellow