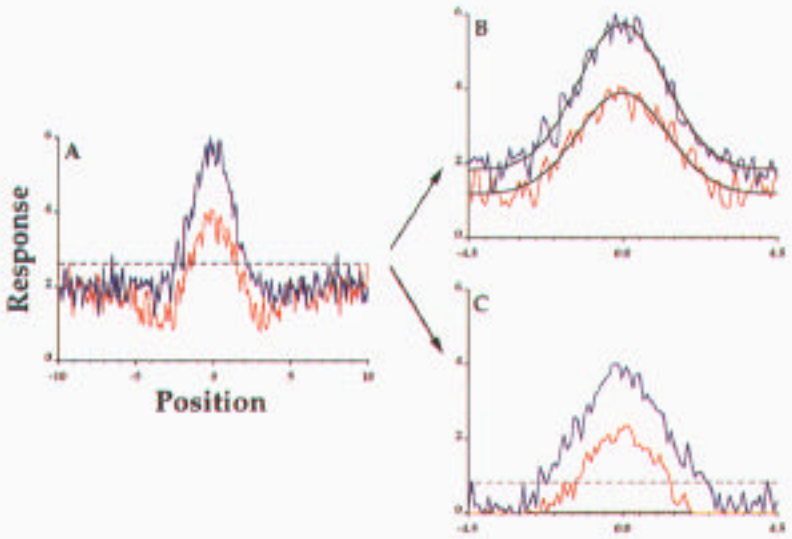

Figure 2. DOG Models of Receptive Fields

Red and blue traces indicate RF profiles before and after conditioning, respectively.

(A) Simulating the effect of an artificial scotoma by decreasing the amplitude of the inhibitory Gaussian (K_i goes from 2 to 0.5), leaving all other DOG parameters constant ($R_0 = 2$; $K = 4$; $a = 2$; $a_i = 4$; SD noise = 0.3). Dashed line indicates a threshold of two noise SDs.

(B) Expanded traces with Gaussian fits over restricted range (−4.5° to +4.5°) to simulate the results of Figure 3A of DeAngelis et al. (1995). The apparent after:before ratio is 1.55 for R_0, 1.44 for K, and 0.99 for a, showing that changing K_i of a DOG can mimic the parallel increases in R_0 and K and largely unchanged a seen by DeAngelis and colleagues. The root mean square errors of the two fits are within ~10% of each other.

(C) Expanded traces with a lower R_0 (0.2) to simulate the Figure 3 of Pettet and Gilbert (1992). The threshold shown by the dashed line (two SDs above baseline) would result in an increase in RF size of 78% along one dimension, but subjective mapping would likely yield an even greater increase.