

Filtered external noise has been an important tool in characterizing the spatial-frequency sensitivity of perceptual templates. Typically, low-pass and/or high pass-pass filtered external noise is added to the signal stimulus. Thresholds --- signal energy necessary to maintain given criterion performance levels --- are measured as functions of the spatial-frequency pass-band of the external noise (TVF's). An observer model is postulated to segregate the impact of the external and the internal noise. The spatial-frequency sensitivity of the perceptual template is determined by the relative impact exerted by *external noise* in each frequency band. The Perceptual Template Model (PTM) is a general observer model which provides an excellent account of human performance in white external noise [Vis. Res., **38**, 1183 (1998); J. Opt. Soc. Am., A., **16**, 764 (1999)]. Here, we further develop the PTM for filtered external noise and apply it to derive the spatial-frequency sensitivity of perceptual templates.