

## **Models for colored target detection on textured backgrounds**

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Experimental psychologists trying to equate monochrome visual targets for detectability have sometimes matched targets for luminance contrast and area. Now there is a range of models they can use to predict detectability that take into account both the spatial configuration of the target and its background.

For colored targets, spatial extensions of color difference metrics like CIE Lab have been developed, but they do not take into account masking by the variations in the background. We will describe color image discrimination models that have been specifically designed to predict the detectability of colored targets in colored textured backgrounds and describe the colored noise masking experiments that we have used to calibrate and select among the models.

The experiments demonstrate significant masking of color targets by color variations in the background texture. The question of whether there is significant cross-channel masking is not yet answered because it depends on how the channels are defined and how they vary over individual observers.