

# CHANGE BLINDNESS AND DETECTION IN SOCCER SCENES

## **Abstract**

Change blindness is a surprising yet important phenomenon in cognitive psychology. It has spawned a great deal of research, among which the flicker paradigm of Rensink has become a representative approach for investigating factors related to change blindness. Related work has revealed that the failure to detect changes is due to the absence of focused attention. Top-down and bottom-up factors that guide attention deployment have thus been investigated respectively in the literature of change blindness, yet little has been done to compare their relative effect or to explore their interplay in this process. Along this vein of research, the present work attempts a small advance with two specific goals. The first is to replicate Rensink's change blindness experiment and extend it with a few additional features. The second is to rethink the central interest concept proposed by Rensink in a particular setting: the soccer scene. Three stages of change detection experiments based on the flicker paradigm are designed and carried out. By comparing the detection time of two assumed central interests, a famous face and a soccer ball, some factors that influence the attention deployment in the change detection process are identified and discussed.

**Keywords:** change blindness, change detection, attention, flicker paradigm, soccer images