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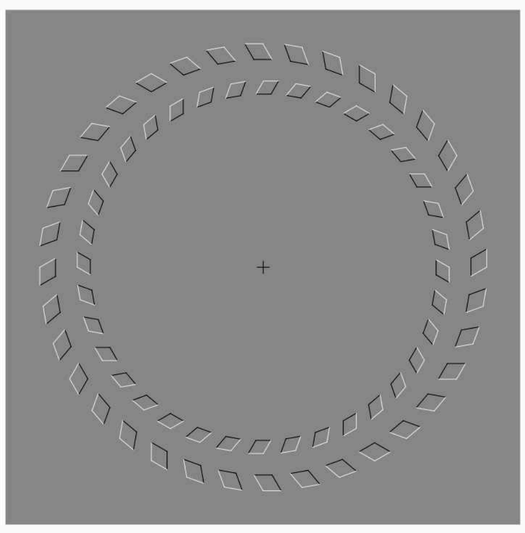
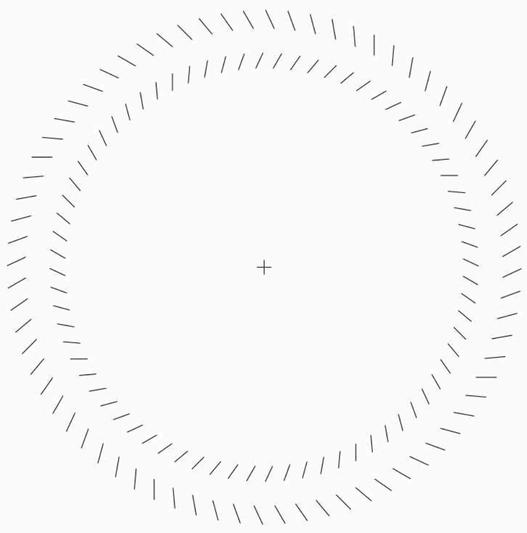
Illusory motion capture in terms of oblique components

Makoto Ichikawa (Chiba University, JAPAN)
Yuko Masakura (Tokyo Polytechnic Universithy, JAPAN)

Illusory motion

• When viewing the concentric circles, which consist of paralellograms, or oblique lines,with repeatedly moving the head forward and backward, observers see an illusory rotation of the circles (Pinna & Brelstaff, 2000, *Vision Research*).

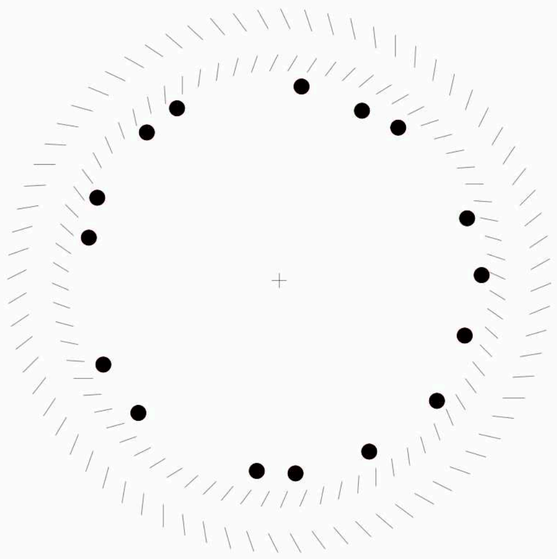




Motion capture

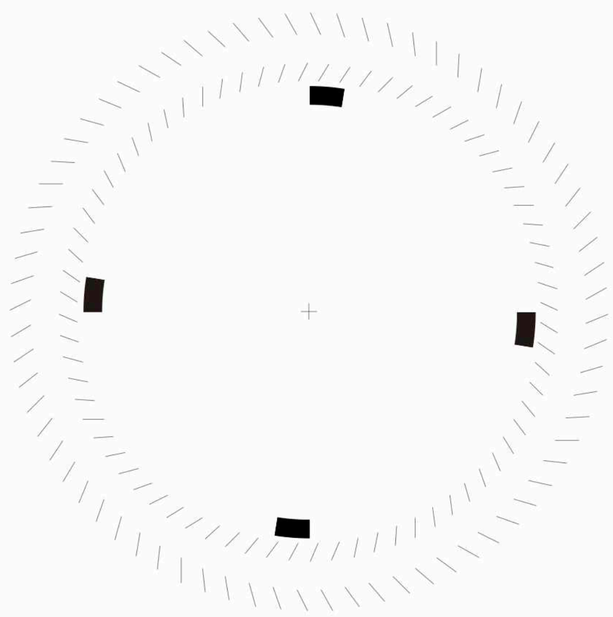
• If several dots were superimposed on the concentric circles, observers will see the illusory rotation not only for the circles, but also for these dots (Ichikawa, Masakura & Munechika, 2006, *Perception*).

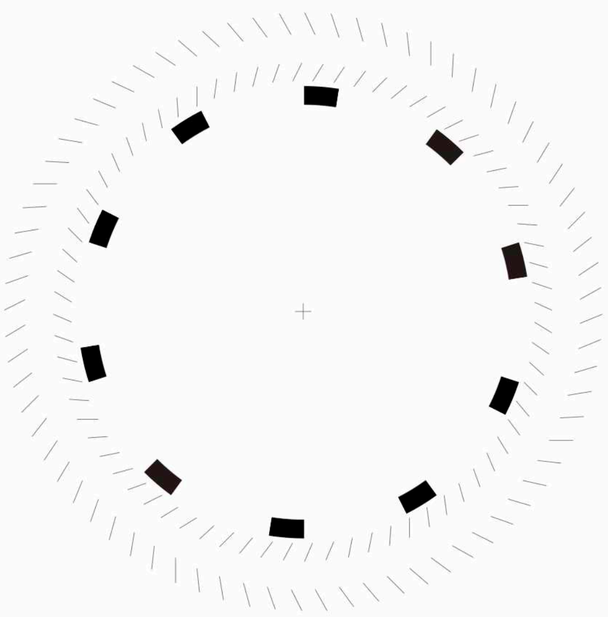
• This illusory rotation of the dots, which have no means for generating illusory motion themselves, is based on "motion capture" (Ramachandran & Cavanagh, 1987, *Vision Research*).

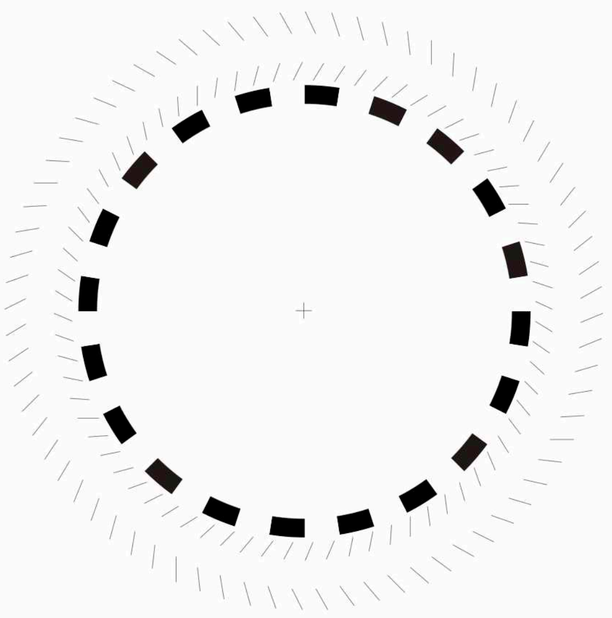


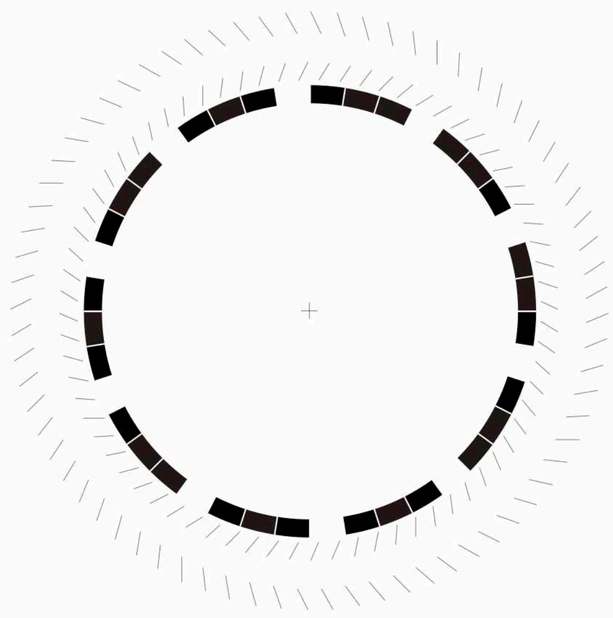
Question

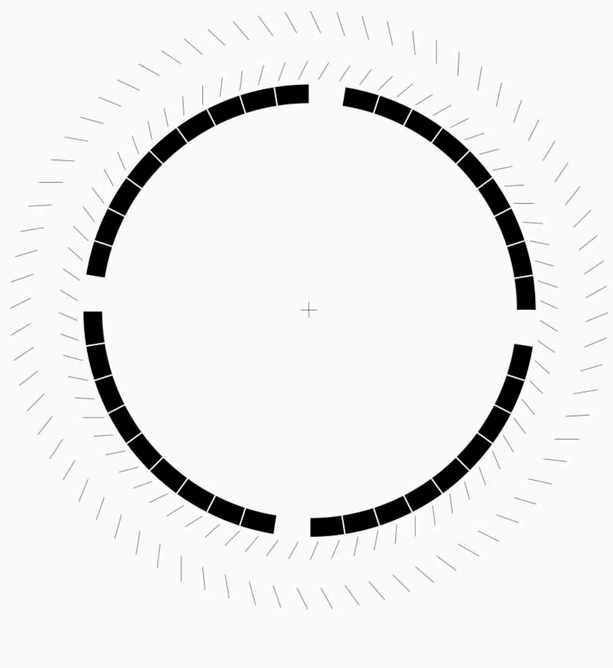
• How do the illusory rotation for the inner and outer circles, and motion capture for the superimposed elements vary with the amount of the superimposed elements?

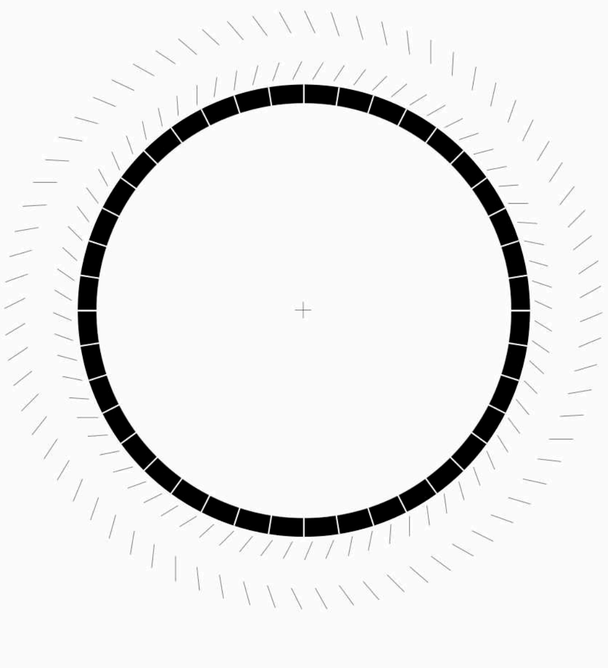












References

Pinna, B., & Brelstaff, G. J. (2000). A new visual illusion of relative motion. *Vision Research*, **40**, 2091-2096.

Ichikawa, M., Masakura, Y., & Munechika, K. (2006). Dependency of illusory motion on directional consistency in oblique components. *Perception*, **35**, 933-946.

Ramachandran, R., & Cavanagh, P. (1987). Motion capture anisotropy. *Vision Research*, **27**, 97-106.

For more detail, please see the following paper.

Ichikawa, M. & Masakura, Y. (accepted). Basis for motion capture in terms of illusory motion signal obtained from oblique lines. *Perception*.