Motion without movement

The basic idea

1-d cross-sections of filters. (a) Even phase ($G_2$). (b) Odd phase ($H_2$). (c) Filters modulated in phase. Note the apparent rightward motion of the filter ripples.

Image of Einstein

(a) and (b): $G_2$ and $H_2$ filters were applied to an image of Einstein. (c) Image phase modulated as above. When viewed as a temporal sequence, this generates the perception of rightward motion, yet image remains stationary.

Steerable filters conveniently allow this illusory motion effect to occur in any direction, just by changing the orientation of the quadrature pair of filters.

Reference

