Title
Saccade-vergence interaction for effective eye movements in 3D on a binocular stereoscopic robot head.

Where
Genova

Short summary (5 – 10 lines)
In binocular active vision, the binocular coordination of eyes/cameras movements is a mandatory competence for binocular vision and stereopsis. Saccade is a fast, open loop and conjugate (version) eye movement to shift the gaze direction from an object in the scene to another. Vergence is a slow, closed loop and disconjugate movement, needed to move the binocular fixation point in depth.

Grounding on a pre-existing algorithm for vergence control on robot [1,2], and for object tracking (http://wiki.icub.org/wiki/Main_Page), the candidate will develop an integrated control of version and vergence eye movements, for effective binocular coordination of the eyes/cameras and visual exploration of the three-dimensional scene. Tests will be performed on a iCub stereoscopic robot head (www.icub.org) and on stereo Pan-Tilt Cameras mounted on a K-Team Koala robot (www.k-team.com).

To better understand: 1 – 2 bibliographic references


Name and references of the hosting laboratory and/or the external institution (University, Research Centre, Private Company etc.)
DIBRIS (via all’Opera Pia)

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