

Description of Additional Supplementary Files

File name: Supplementary Movie 1

Description: Example responses from 8 rats showing two consecutive trials each: a correct non-CoM followed by a CoM (see label in the bottom right of the video). Every pair of consecutive trials is played first at real time and then replayed at a slowed velocity ($\times 0.25$). Blue circles show the seven points tracked in the rat's body used to estimate the general pose. The point at the base of the snout used to generate the orienting trajectories $y(t)$ is shown in yellow followed by a "trail" composed of the location in the last 10 frames. The ninth tracked point at the tip of the snout is not shown for clarity. At the bottom right of the video, during the CoM trial, "y_rev" indicates the reversal point of the trajectory in pixels (detection threshold was set at 8 pixels (i.e. 0.56 cm)).