

Advanced Image Processing Lab.

Lab. 9 Target Location and Object Detection in Cluttered Images

Study of optimal adaptive linear filters for detection and localization of objects in cluttered images

9.1 Comparison of the conventional matched filter and optimal adaptive correlators for target location on cluttered background

Compare conventional matched filter correlator (program **mfcorr.m**) and optimal adaptive filter correlator (program **optcorr.m**) in terms of the discrimination capability for location of targets of different size (color separated images **chin_96b**, **chin_96r**, **chin_96b**, 512x256), stereoscopic images **mishstr1** and **mishstr2**). Evaluate localization reliability for different size of the target.

9.2 Image “homogenization” for improving the correlational detection discrimination capability

Test efficiency of using image “homogenization” (image calibration by local mean and standard deviation) as a preprocessing to improve the reliability of target location. Compare improvements for the matched filter and optimal adaptive filter correlators.

Submit: Experimental results, with comments, and programs