

# PIV Method Implementation Code

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Class displacement_map
dpx: 2d np.ndarray dpy: 2d np.ndarray
neighborhood_median(int i, int j) calculate_rm (int i, int j) calculate_r (int i, int j) neighborhood_mean (int i, int j) replacement3 () correct_previous_dp () resize_dp() index_guard()

Class pre-processing
clahe_histogram_equalization(im) sobel_filter1 (im) sobel_filter2 (im1) remove_background(im, n_im, photo_path2) homogenize_brightness(im, n_im, photo_path2)

Class interrogation_window
window_image1: 2d np.ndarray window_image2: 2d np.ndarray cross_corr: 2d np.ndarray
normxcorr2 () find_peak() gauss_subpixel_peak_position()

Class Methods
image1: 2d np.ndarray image2: 2d np.ndarray final_map: displacement_map
result_dimensions()

Class normal_method
wx_size: int wy_size: int overlap: int
first_iteration ()

Class multigrid_method
num_passadas: int
multigrid_method (dp_anterior)

