* + 1. Select the operation ‘SubtractAverageImageFromSet’ from the group ‘user function’ to minimize erroneous vectors in the near-wall region due to glare in the PIV images. Click on ‘Parameter’ in the dialogue box and set the ‘Number of Images to Average’ as 50. Select the operation ‘apply mask’ from the group ‘basic image arithmetic’. Click on ‘Parameter’ to check if mask-file created and saved in step 5.1.3 is identified by the software. Select the operation ‘PIV (particle image velocimetry)’ from the group ‘velocity field computation’.
    2. Select ‘Vector calculation parameter’ sub-operation under ‘PIV (particle image velocimetry)’ operation in the ‘Operation list’ dialogue box. Initialize the following values pertaining to the ‘Vector calculation parameter’ sub-operation:

5.2.2.1 Activate ‘Advanced settings’ check box and ‘use frame’ under ‘Correlation mode:’. Select ‘cross-correlation’, ‘frame 0’ and frame 1’ from the pull-down menus under ‘Correlation mode’. Activate ‘Multi pass (decreas. size)’ check box under ‘Iterations’. Select ‘64 x 64’ and ‘1:1’ under ‘Weight size and weight:’, ‘50’ under ‘Overlap:’ and ‘1:1’ under ‘Passes:’. Select ‘32 x 32’ and ‘1:1’ under ‘Weight size and weight:’, ‘50’ under ‘Overlap:’ and ‘1:1’ under ‘Passes:’. Activate ‘Display intermediate vector fields’ check box.

* + 1. Select ‘Usage of masked out pixels’ parameter under ‘Vector calculation parameter’ sub-operation and initialize the parameters that follow.

5.2.3.1 Activate ‘disable of at center of interrogation window there is no valid pixel’ check box. Activate ‘use pixel masking on images (recommended to switch on !)’ check box. Leave all other options as ‘default’.

* + 1. Select ‘[Initial] reference vector field’ parameter under ‘Vector calculation parameter’ sub-operation and initialize the parameters that follow.

5.2.4.1 Activate ‘Constant’ check box, input values ‘0’ for ‘dx’, ‘0’ for ‘dy’ and select option ‘pixel’ under ‘Initial interrogation window shift [first pass only]’. Select option ‘window size/4’ for ‘Relative vector range restriction = reference + -‘ and the value ‘5’ pixel for ‘Absolute vector range restriction = reference + -‘ under ‘Restrictions implied by [adaptive multipass / initial] reference velocity fields:’. Activate the check box ‘Symmetrical: in the middle between interrogation windows / images’ under ‘Vector position:’.

* + 1. Select ‘Correlation function’ parameter under ‘Vector calculation parameter’ sub-operation and initialize the parameters that follow.

5.2.5.1 Select ‘standard I1\*I2 (via FFT, no zero-padding)’ from the pull-down menus under ‘Initial pass(es)’. Select ‘standard I1\*I2 (via FFT, no zero-padding)’ from the pull-down menus under ‘Final pass(es)’.

* + 1. Select ‘Correlation peak validation’ parameter under ‘Vector calculation parameter’ sub-operation and initialize the following parameters: Select ‘correlation value of 1. peak’ from the pull-down menus under ‘Quality stored in “peak ratio” of vector field:’. Select ‘Multi-pass post processing’ parameter under ‘Vector calculation parameter’ sub-operation and initialize the following parameters: Activate ‘remove groups with <’ check box and input the value ‘5’ vectors.

Note: Some values and check boxes are activated automatically and cannot be disabled since step 5.2.6 incorporated multi-pass vector calculations.

* + 1. Select ‘Vector post processing’ sub-operation under ‘PIV (particle image velocimetry)’ operation in the ‘Operation list’ dialogue box. Initialize the parameters pertaining to the ‘Vector calculation parameter’ sub-operation that follow.

5.2.7.1 Activate ‘Do vector post processing’ check box. Activate ‘Median filter:’ check box.

Select ‘strongly remove & iteratively replace’ option from the pull down menu. Input value ‘1.5’ under ‘remove if diff. to avg. > \* r.m.s. of neighbors. Input value ‘2’ under ‘(re)insert if diff. to avg. < \* r.m.s. of neighbors. Select ‘Remove groups with <’ check box and input value ‘5’ vectors

Note: Do not select check boxes ‘Fill-up empty space (interpolation)’, ‘Smoothing’ and ‘Apply currently active mask’.