

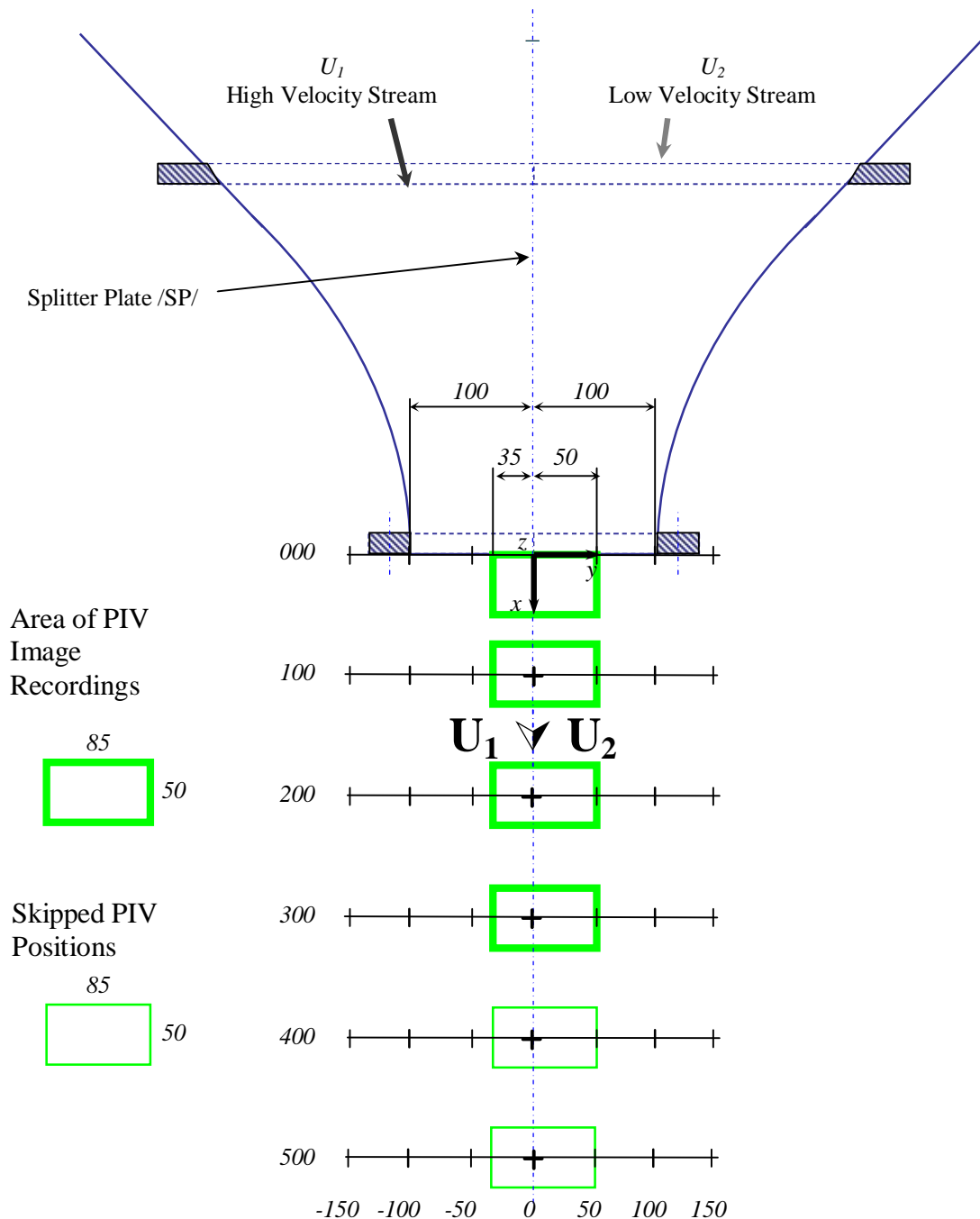
# SINGLE PHASE FLOW

## Particle Image Velocimetry RESULTS

100 images at 4 positions for 2 velocity ratios ( $100 \times 4 \times 2 = 800$ )

Processing:  $u'$ ,  $v'$ ,  $U_{\text{mean}}$ ,  $V_{\text{mean}}$ , RMS, T.I.,  $\Omega_z$ ,

( $159 \times 95$ ) vectors in ( $1280 \times 768$ ) pixel or  $\approx (85 \times 50)$  mm area



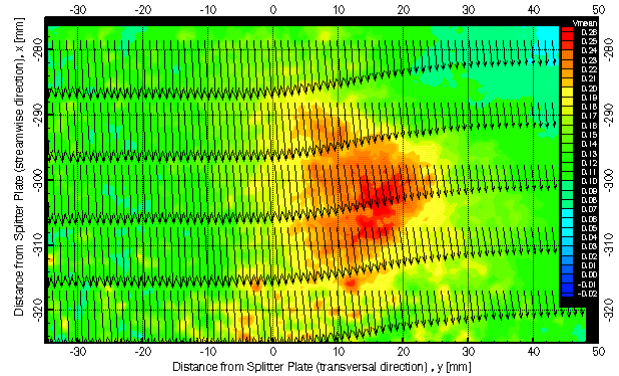
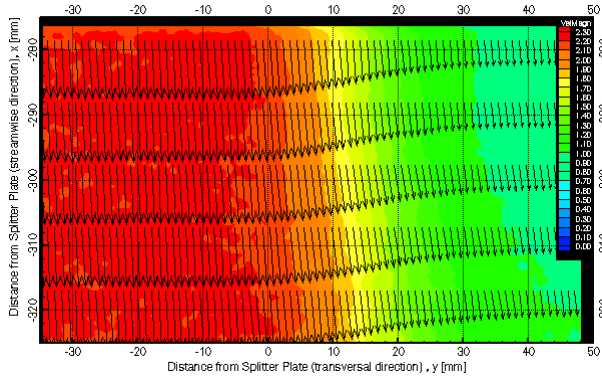
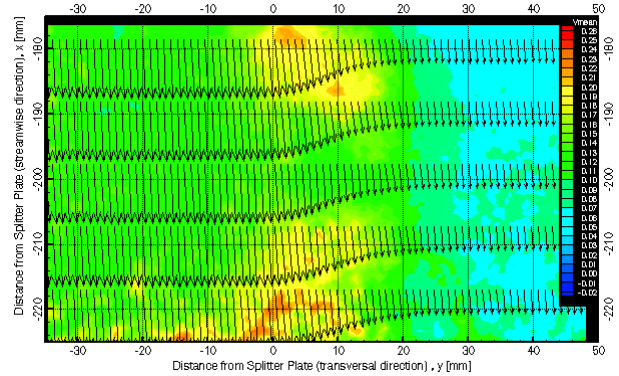
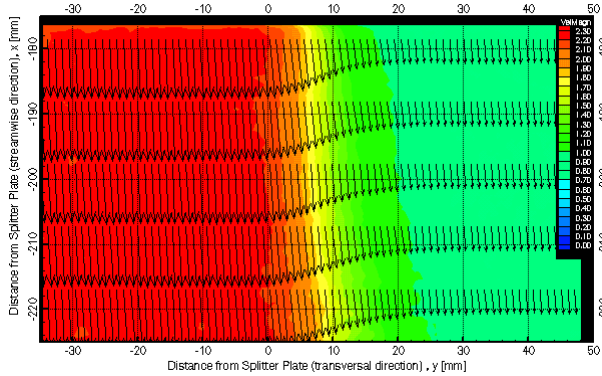
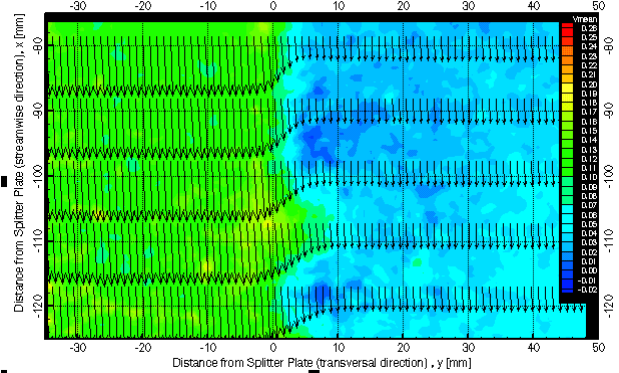
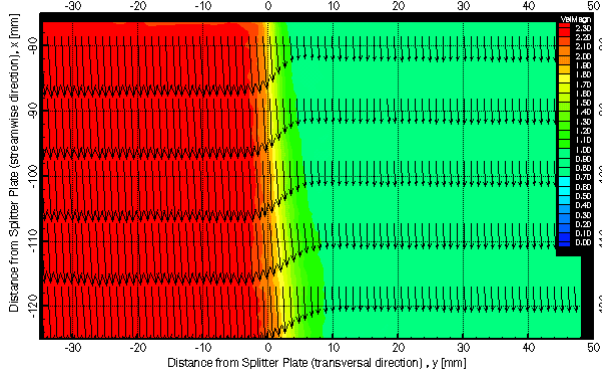
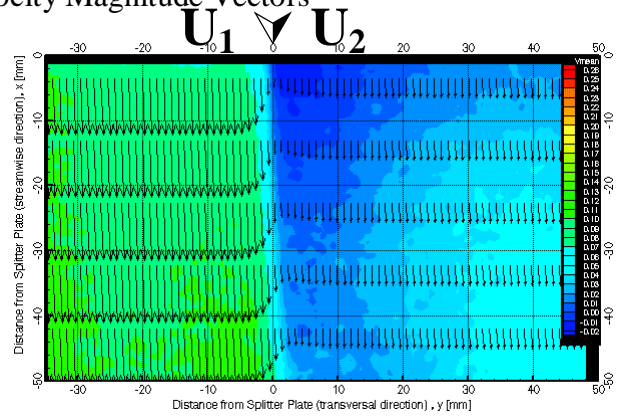
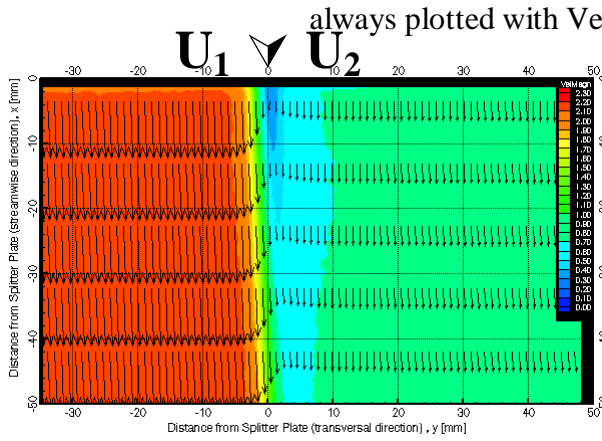
**Test Section and Measurement Positions**  
*dimensions in [mm]*

**LEFT**

**Velocity Magnitude**  
**[0, 0.1, ... 2.3] m/s**

**RIGHT**

**$V_{\text{mean}} / y$  transversal /**  
**[-0.02, -0.01, ... 0.26] m/s**



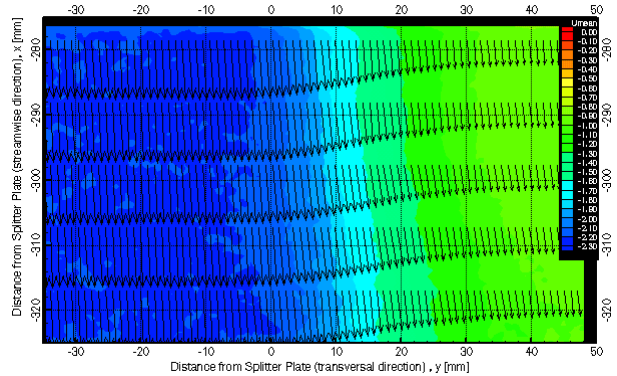
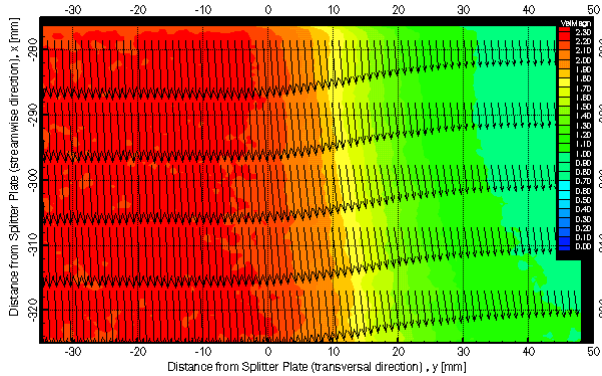
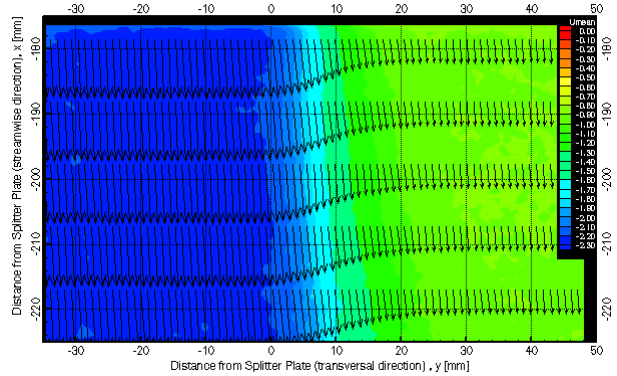
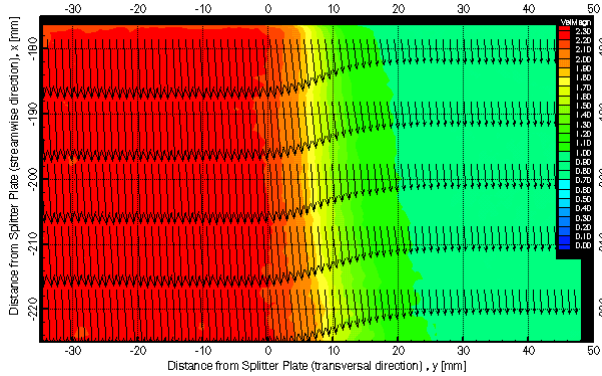
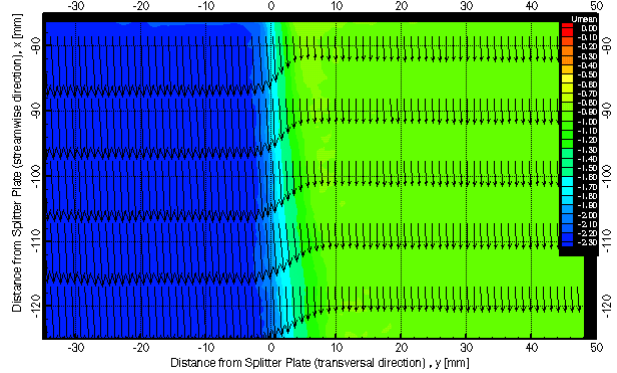
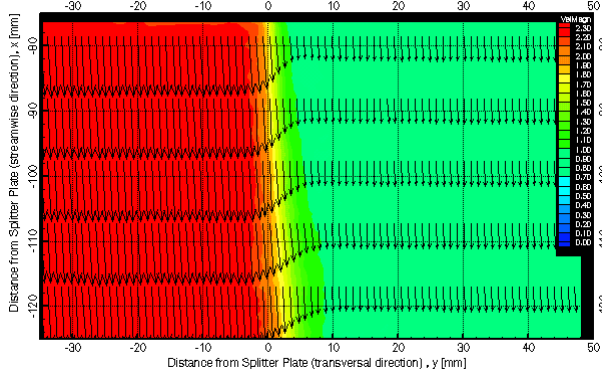
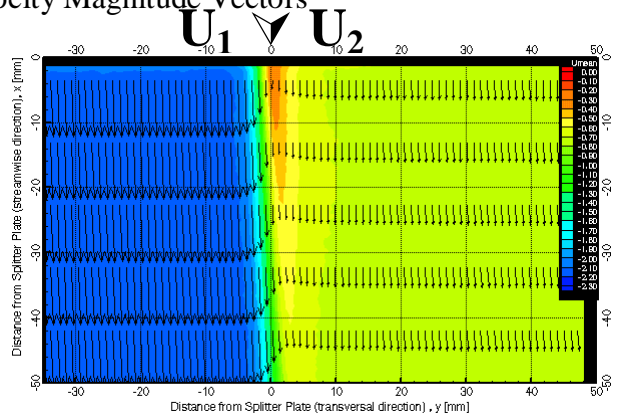
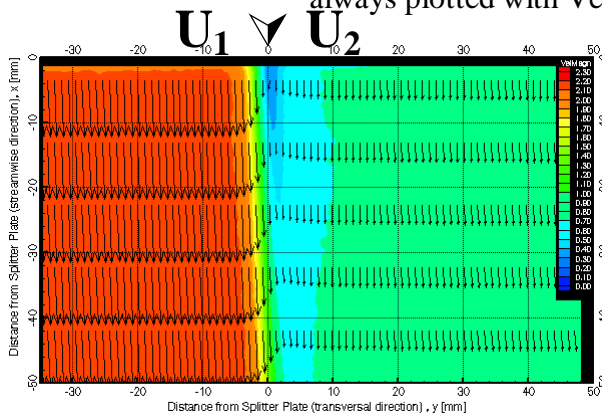
**LEFT**

**Velocity Magnitude**  
**[0, 0.1, ...+2.3] m/s**

**RIGHT**

**$U_{\text{mean}} / x$  streamwise /**  
**[-2.3, -2.2, ... 0] m/s**

always plotted with Velocity Magnitude Vectors



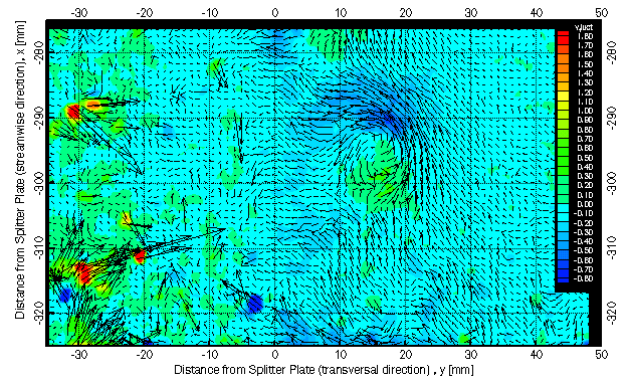
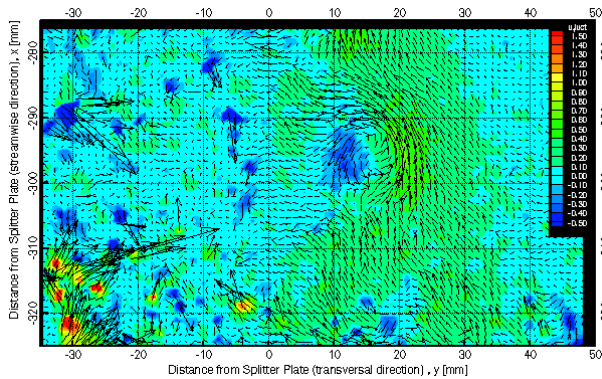
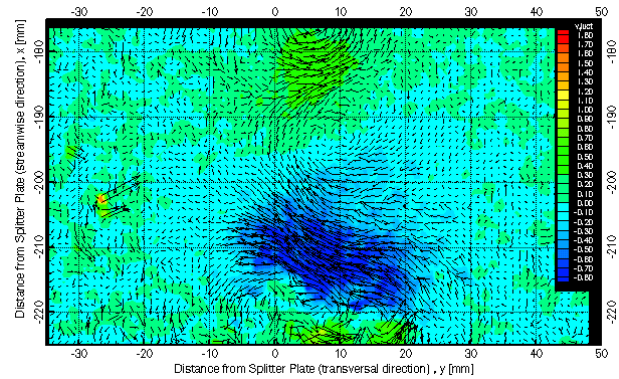
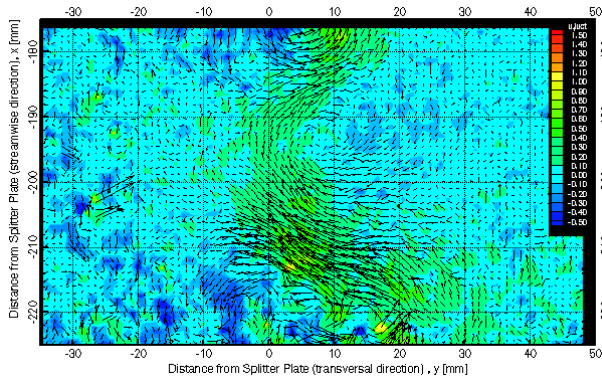
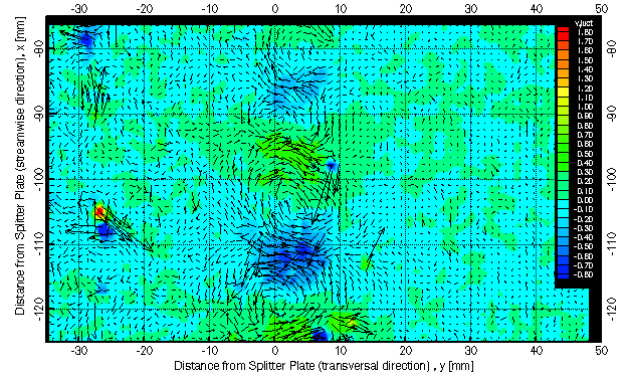
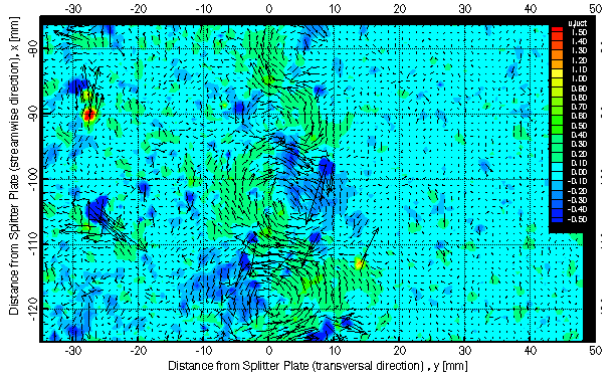
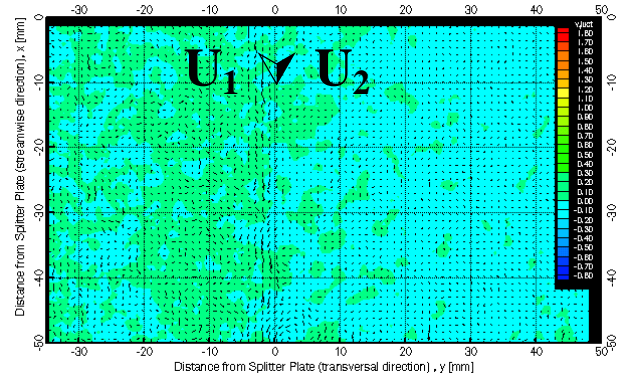
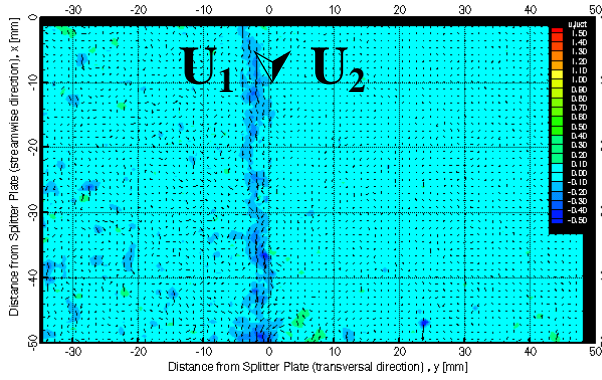
**LEFT**

$u'$  streamwise fluct. comp.  
[-0.5, -0.4, ... +1.5] m/s

**RIGHT**

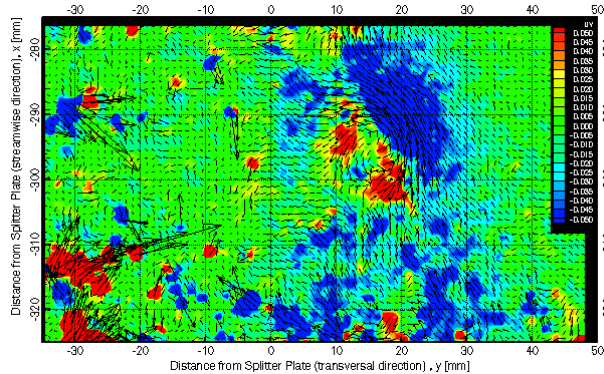
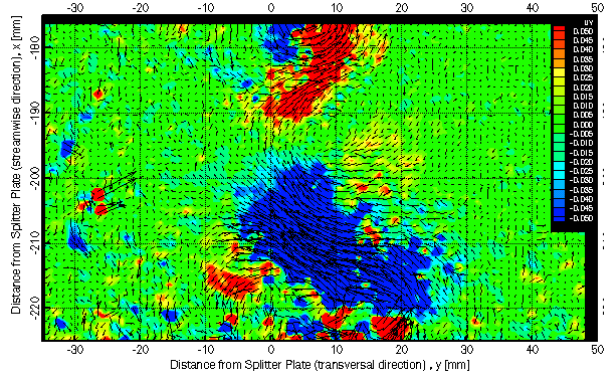
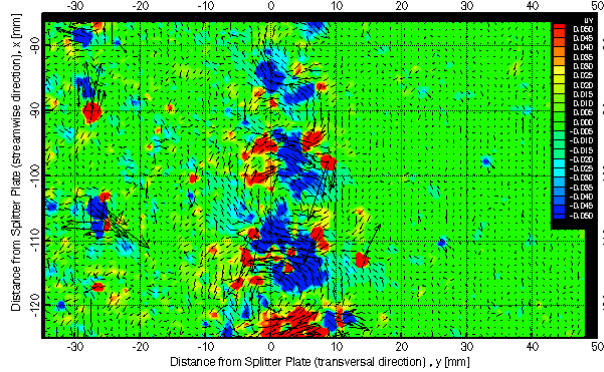
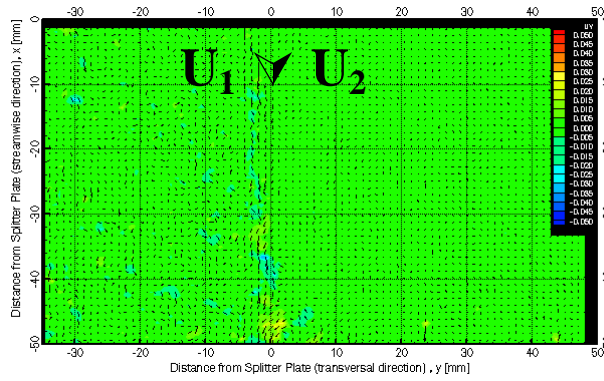
$v'$  transversal fluct. comp.  
[-0.8, -0.7, ... +1.8] m/s

plotted with  $(u', v')$  fluctuating velocity vectors



**LEFT**

$u'v'$  fluctuating components  
 $[-0.050, -0.045, \dots +0.050] \text{ m}^2/\text{s}^2$   
 plotted with  $(u', v')$  fluctuating velocity vectors

**RIGHT**

$\Omega_z$  vorticity  
 $[-25, -22.5 \dots +25] \text{ 1/s}$

