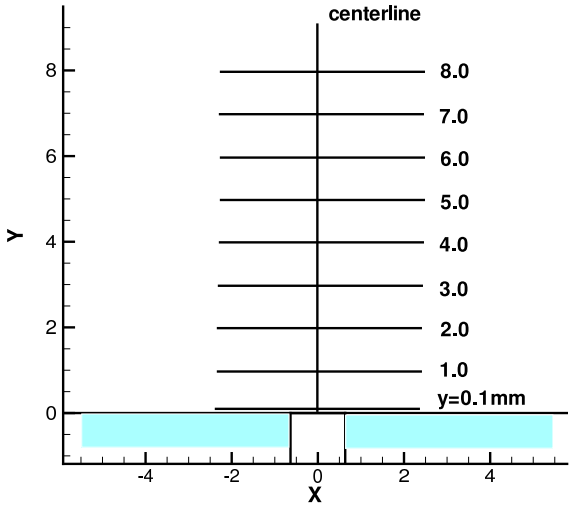
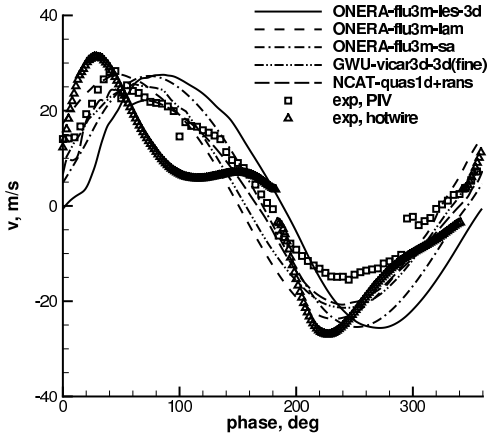
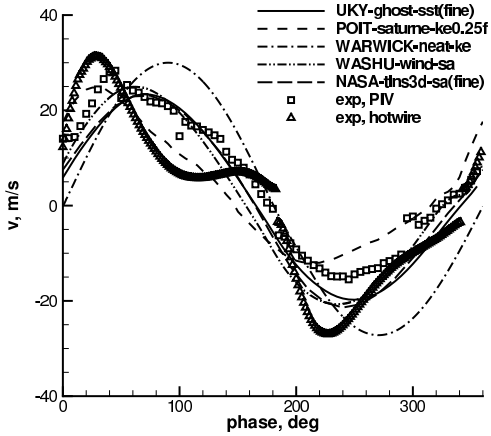
Results from CFDVAL2004 Case 1

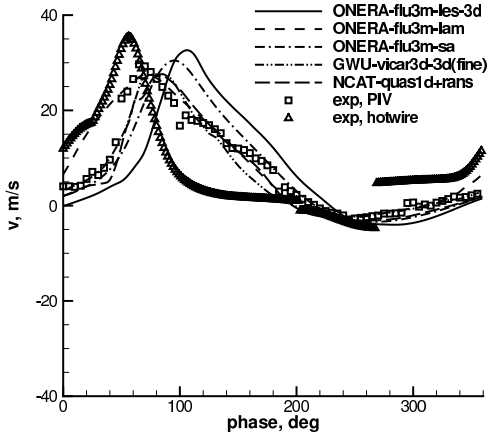


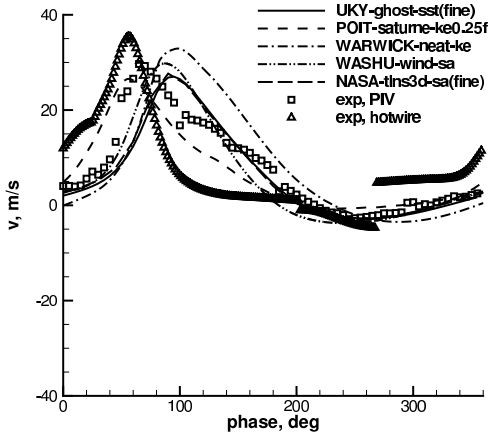
Time histories of v-velocity at x=0, y=0.1mm:



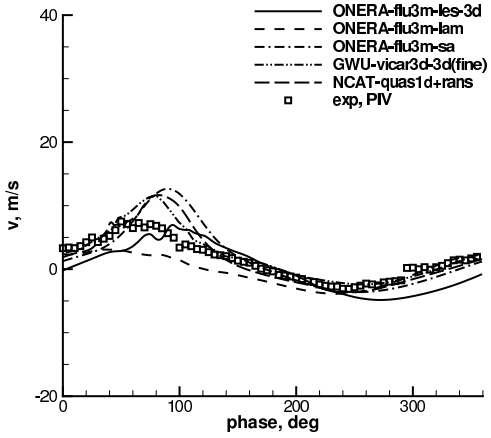


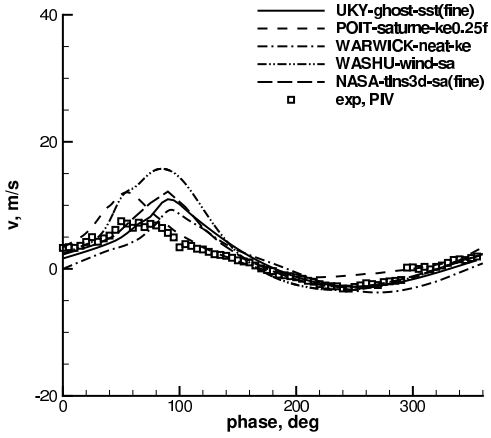
Time histories of v-velocity at x=0, y=2mm:



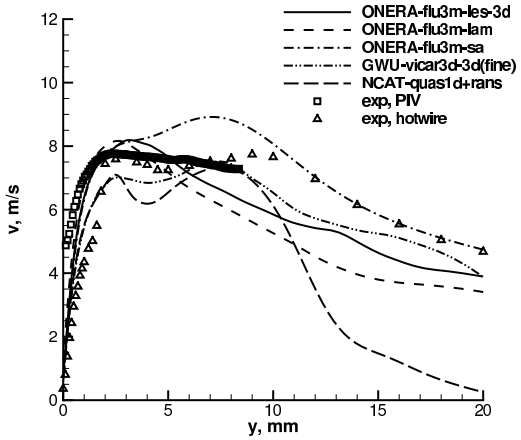


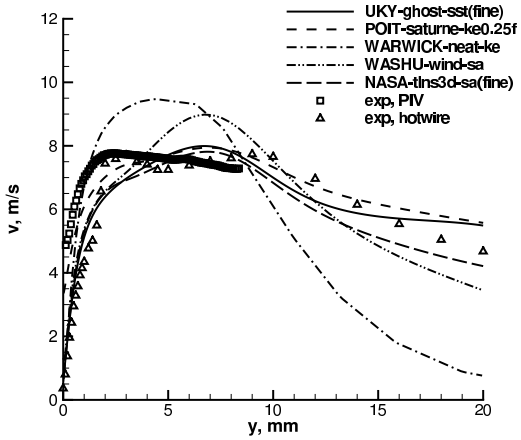
Time histories of v-velocity at x=1mm, y=2mm:



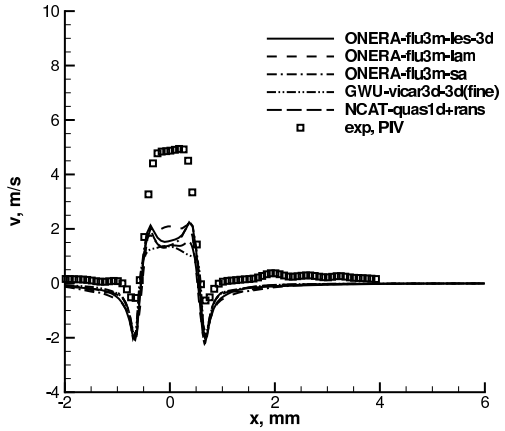


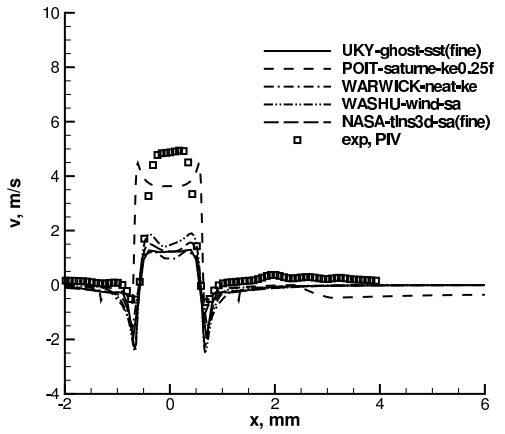
Average v-velocity profiles at x=0:



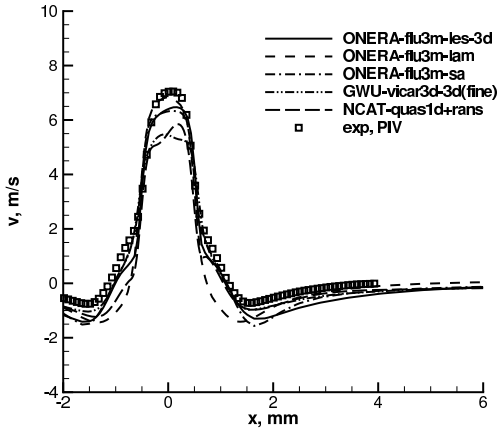


Average v-velocity profiles at y=0.1mm:

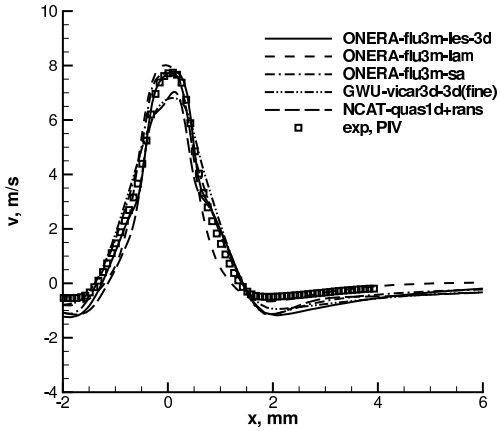


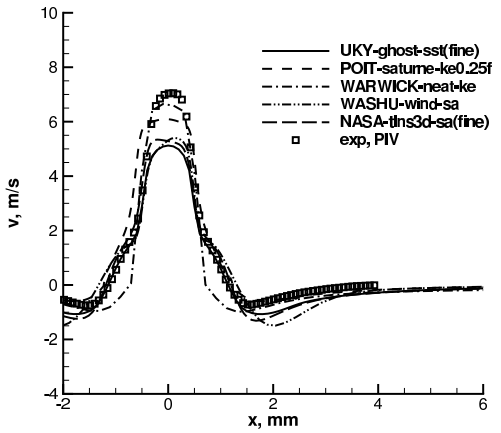


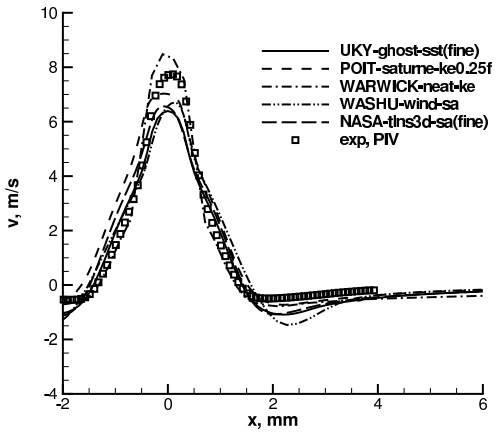
Average v-velocity profiles at y=1mm:



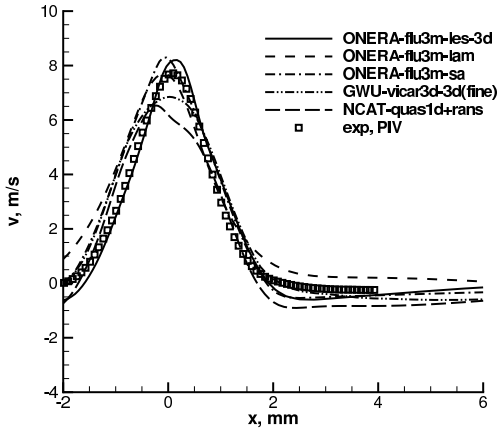
Average v-velocity profiles at y=2mm:

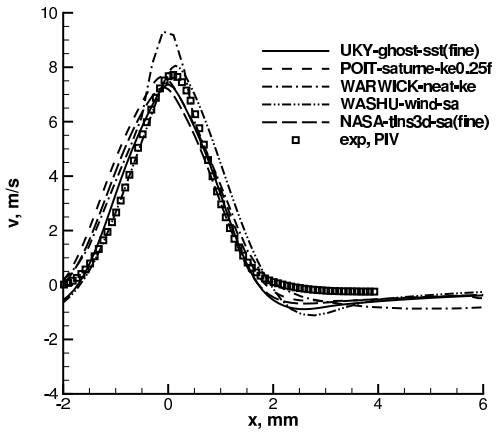




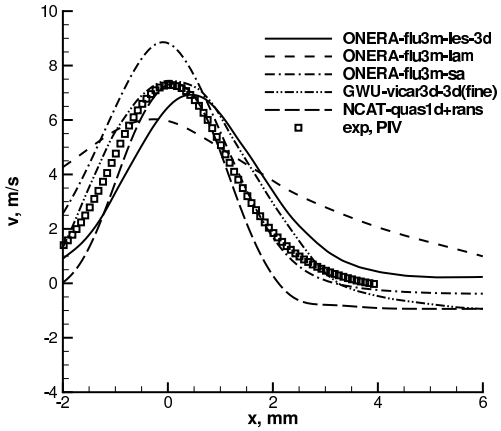


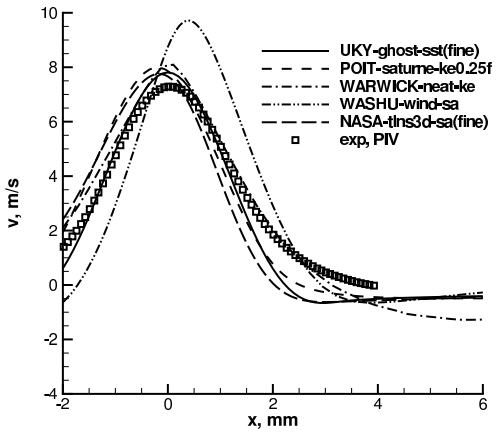
Average v-velocity profiles at y=4mm:



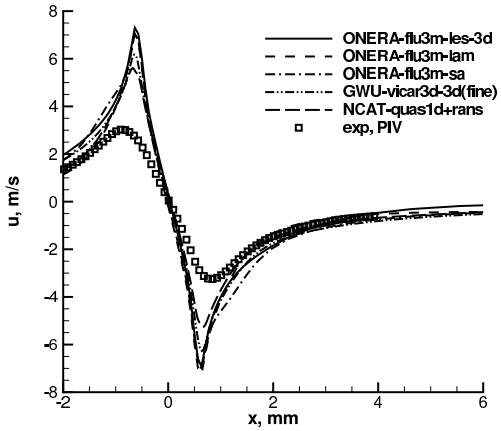


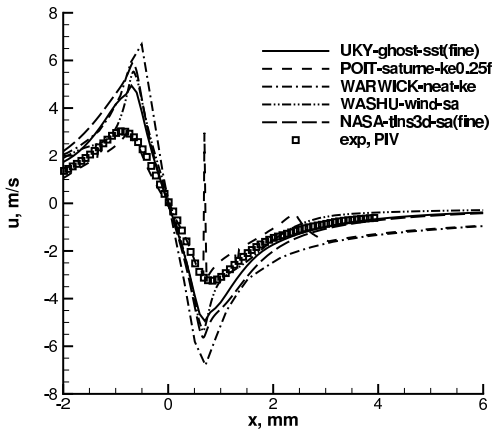
Average v-velocity profiles at y=8mm:



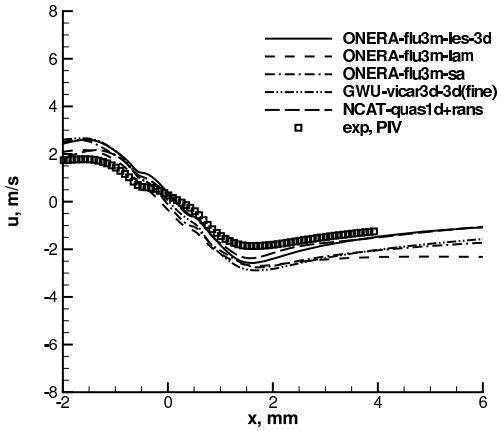


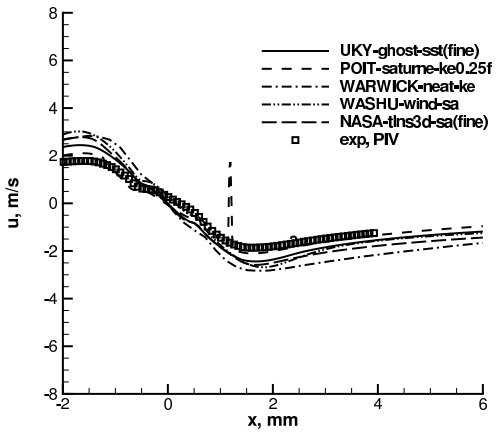
Average u-velocity profiles at y=0.1mm:



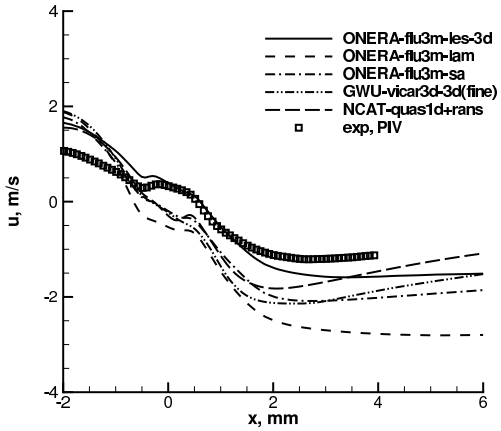


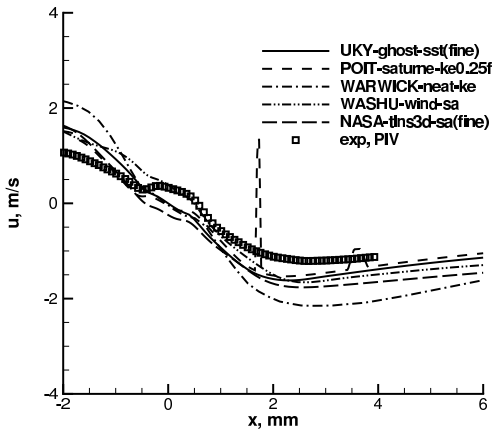
Average u-velocity profiles at y=1mm:



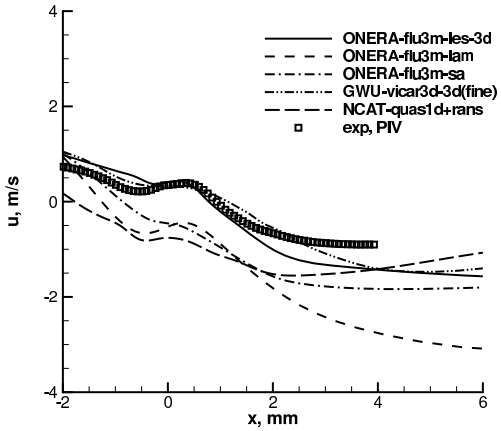


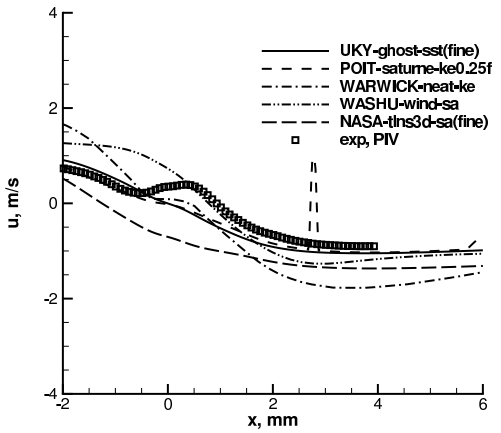
Average u-velocity profiles at y=2mm:



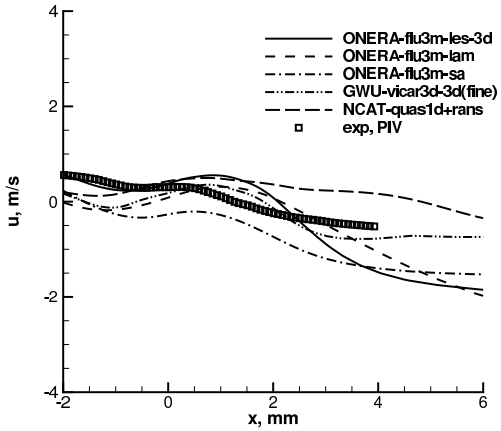


Average u-velocity profiles at y=4mm:

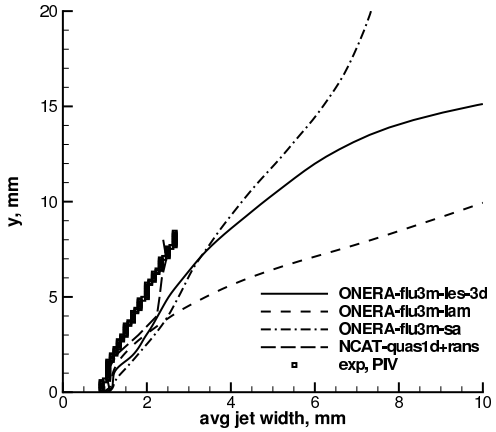


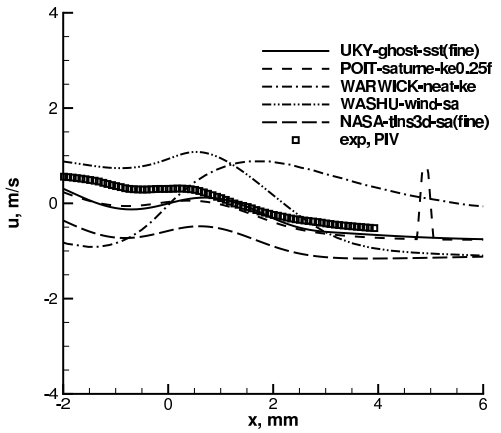


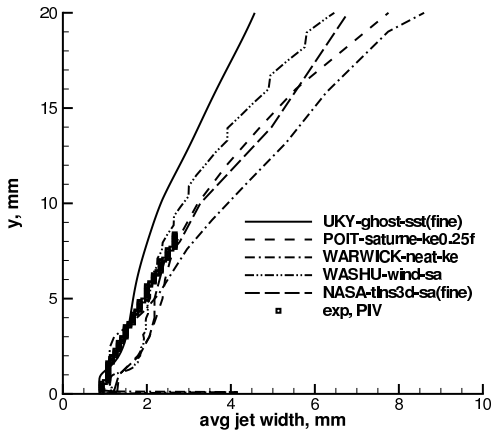
Average u-velocity profiles at y=8mm:



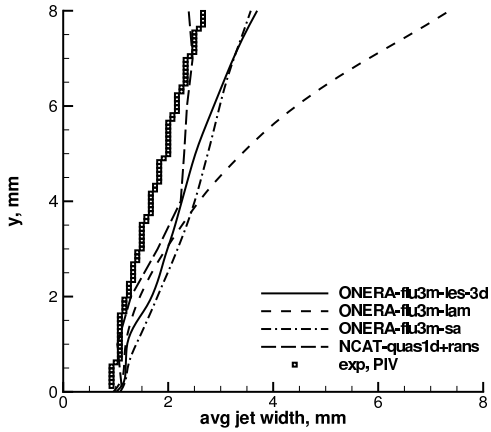
Jet width based on average v-velocity:

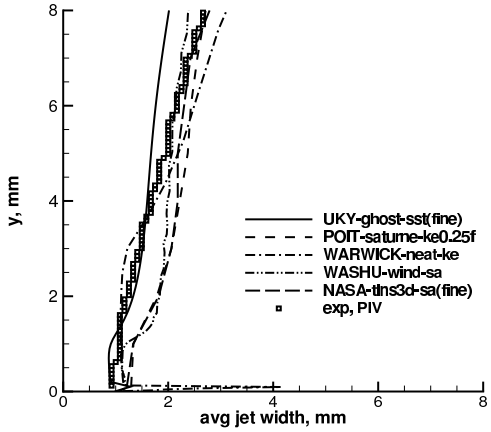




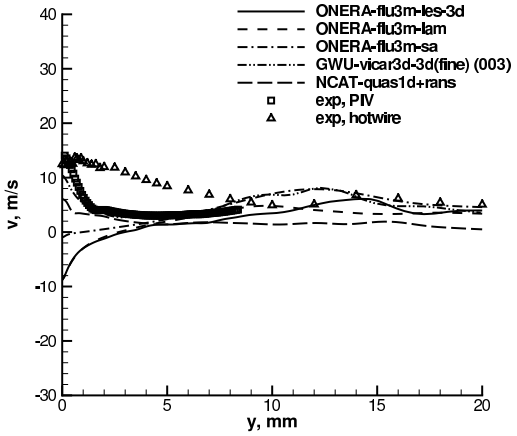


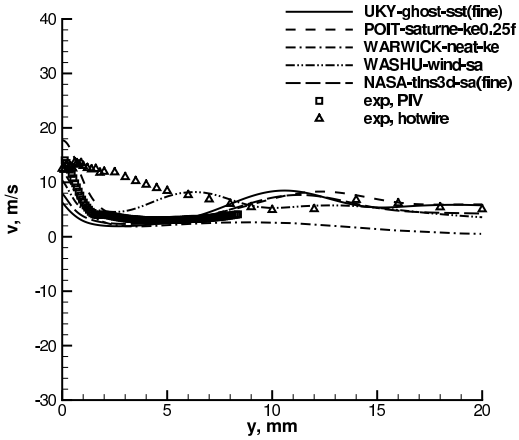
Jet width based on average v-velocity (close-up):



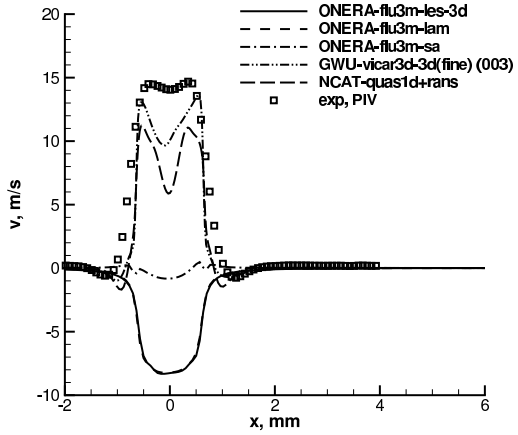


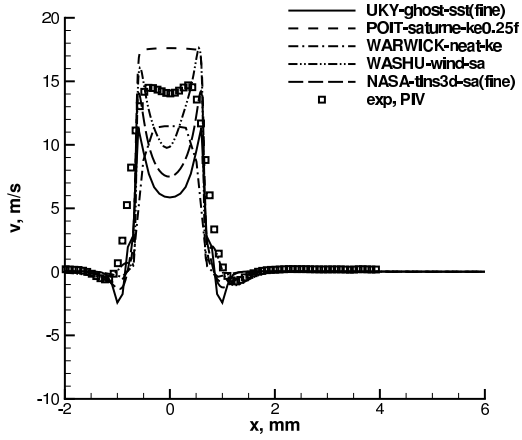
Phase-averaged v-velocity profiles at x=0, phase=0°:



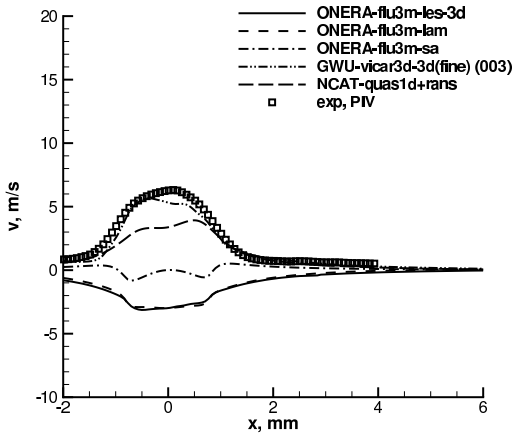


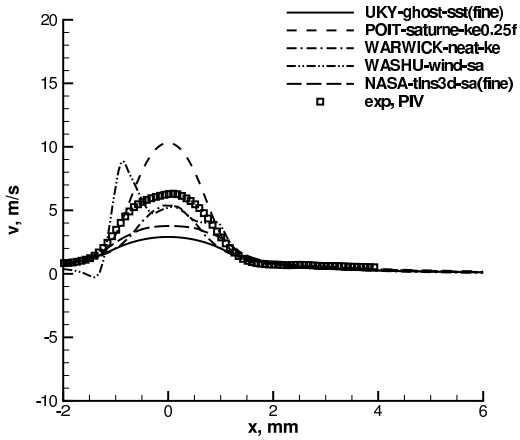
Phase-averaged v-velocity profiles at y=0.1mm, phase=0°:



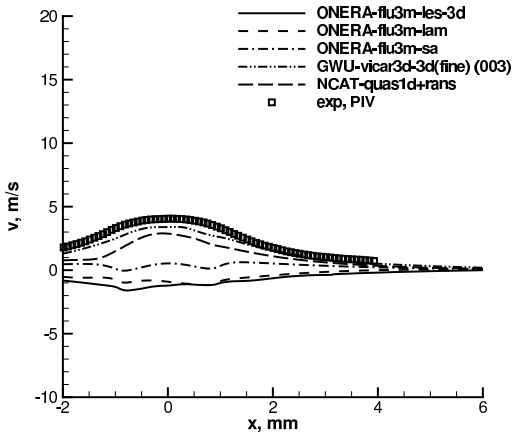


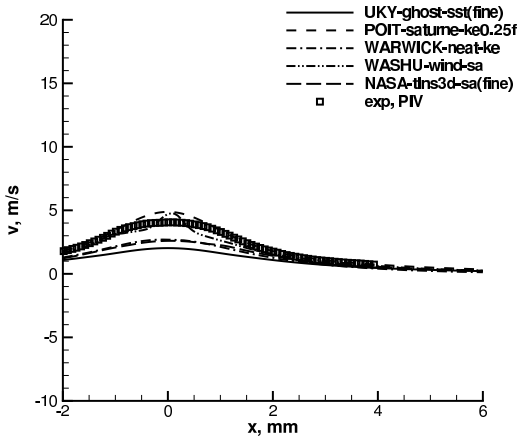
Phase-averaged v-velocity profiles at y=1mm, phase=0°:



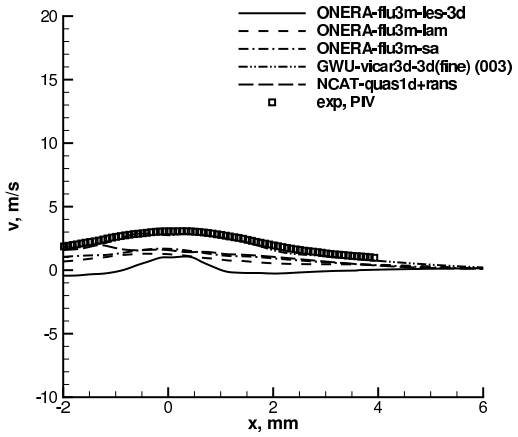


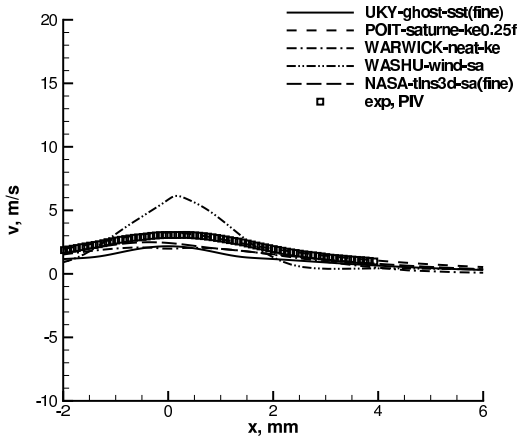
Phase-averaged v-velocity profiles at y=2mm, phase=0°:



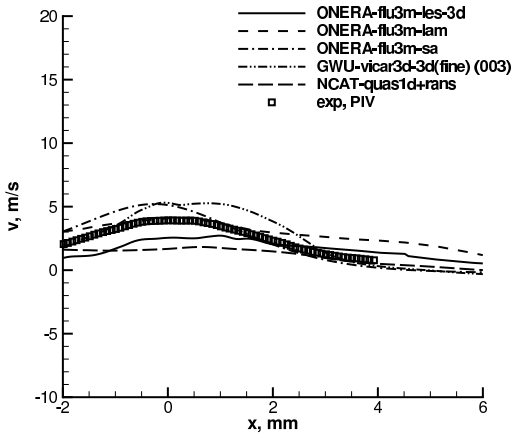


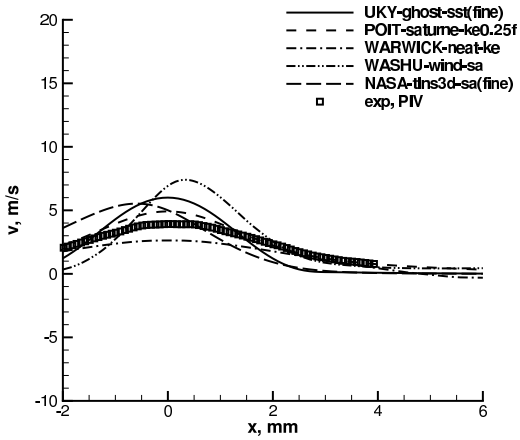
Phase-averaged v-velocity profiles at y=4mm, phase=0°:



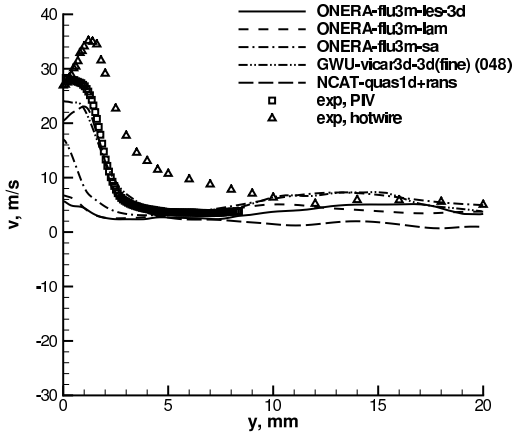


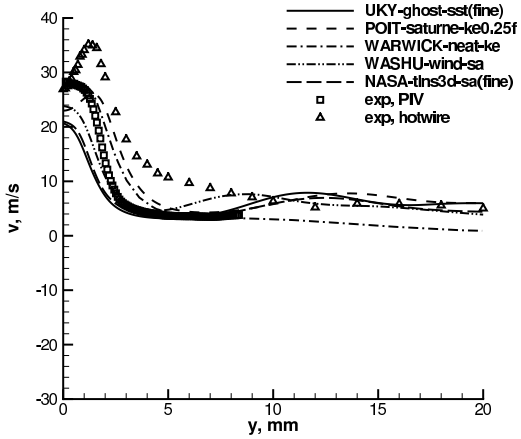
Phase-averaged v-velocity profiles at y=8mm, phase=0°:



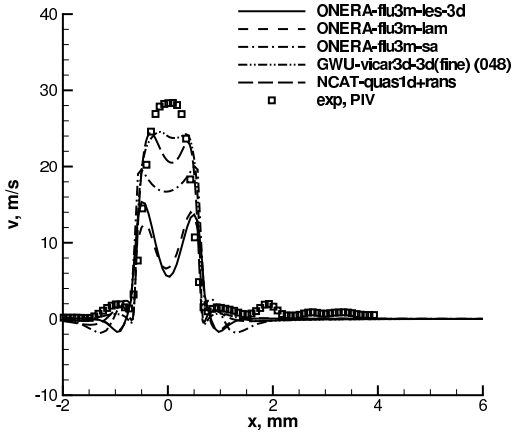


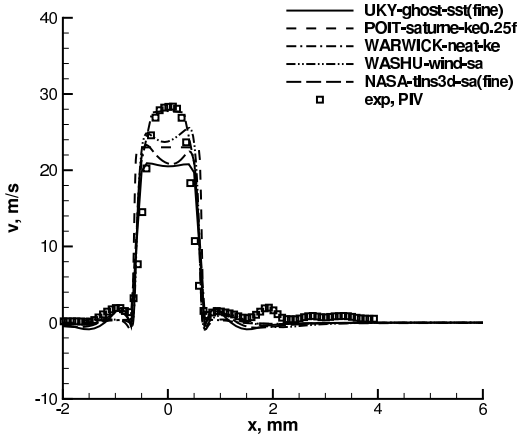
Phase-averaged v-velocity profiles at x=0, phase=45°:



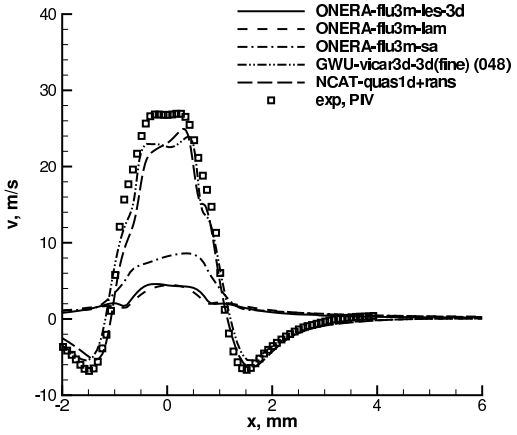


Phase-averaged v-velocity profiles at y=0.1mm, phase=45°:

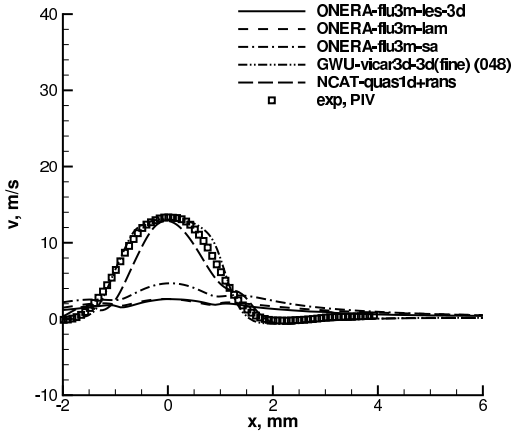


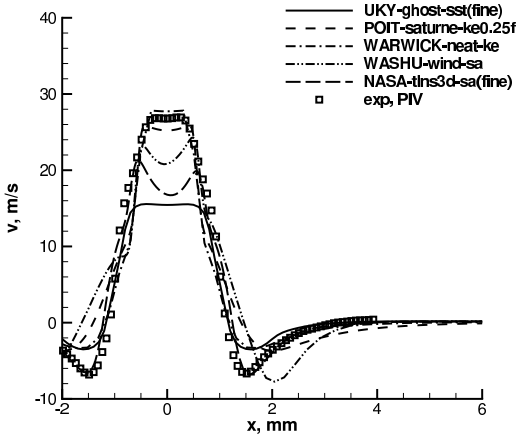


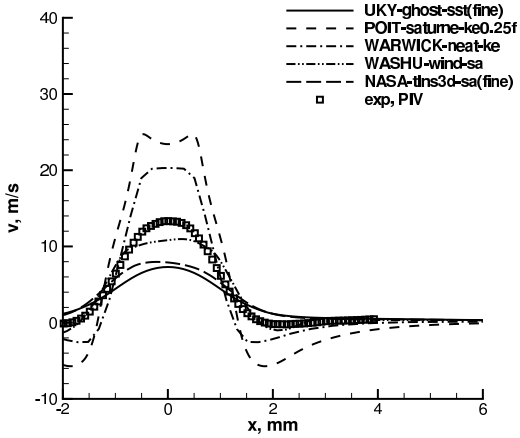
Phase-averaged v-velocity profiles at y=1mm, phase=45°:



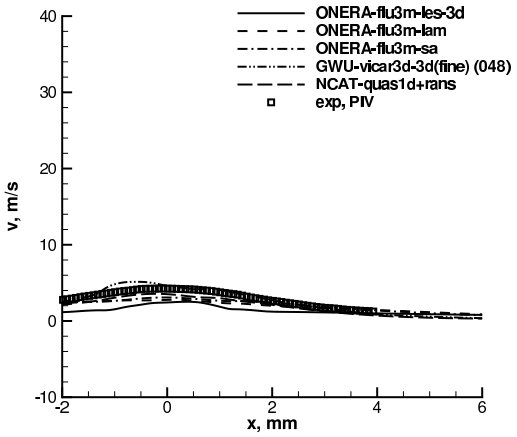
Phase-averaged v-velocity profiles at y=2mm, phase=45°:



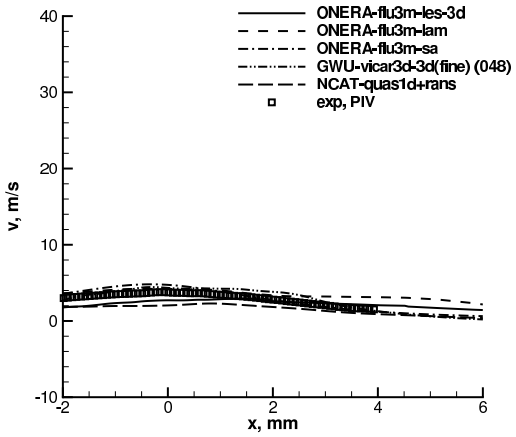


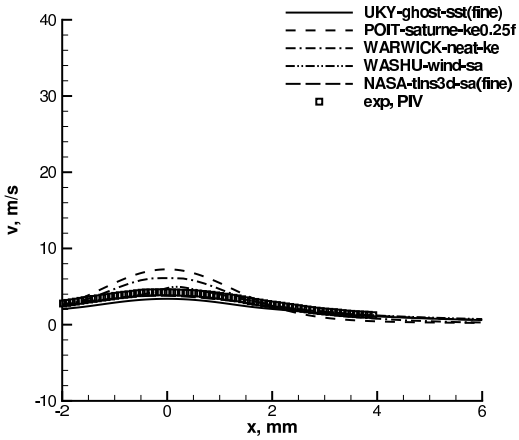


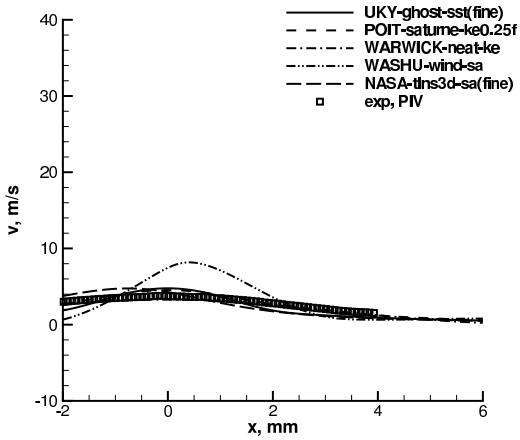
Phase-averaged v-velocity profiles at y=4mm, phase=45°:



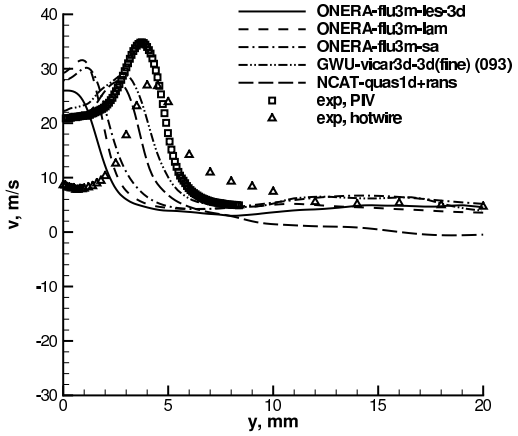
Phase-averaged v-velocity profiles at y=8mm, phase=45°:

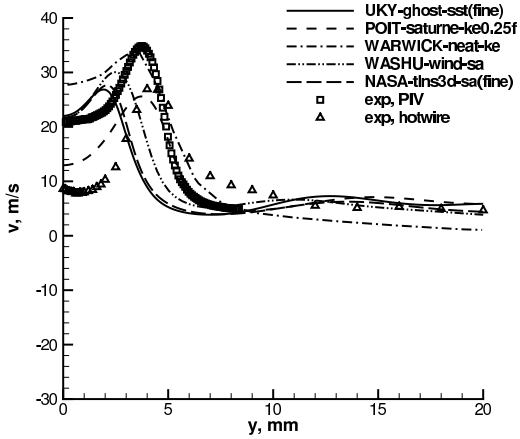




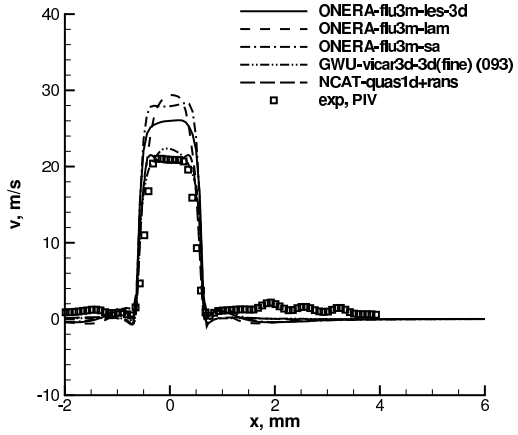


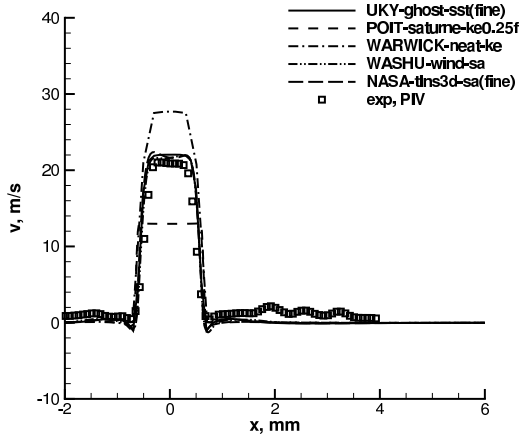
Phase-averaged v-velocity profiles at x=0, phase=90°:



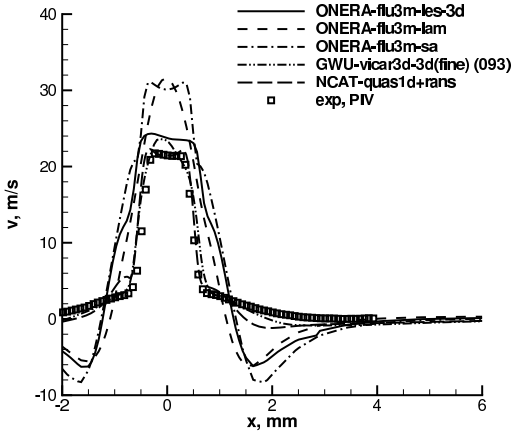


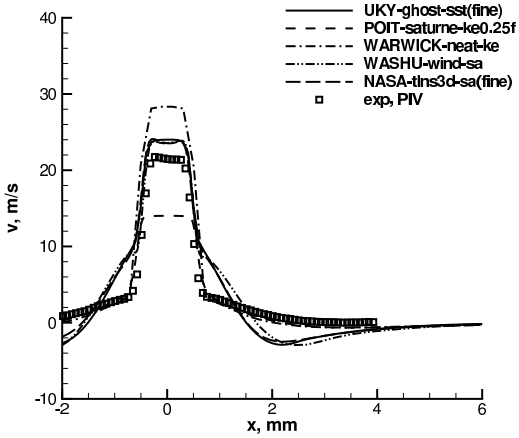
Phase-averaged v-velocity profiles at y=0.1mm, phase=90°:



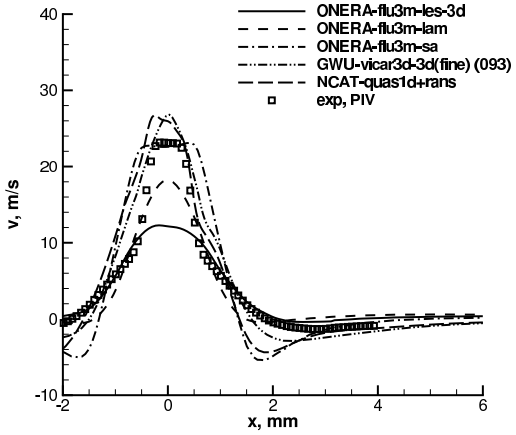


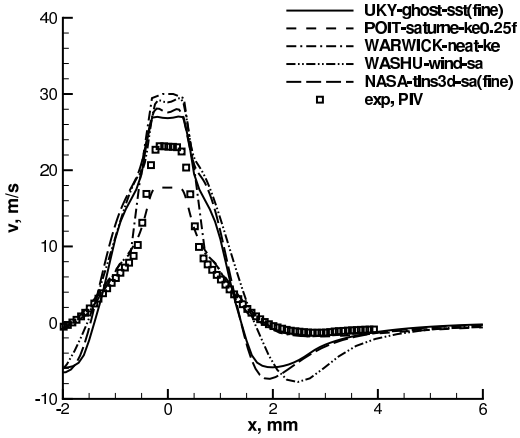
Phase-averaged v-velocity profiles at y=1mm, phase=90°:



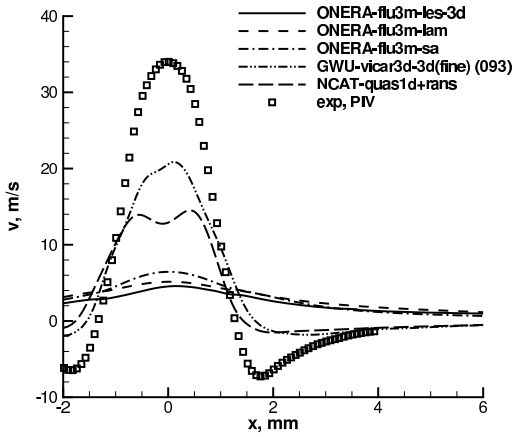


Phase-averaged v-velocity profiles at y=2mm, phase=90°:

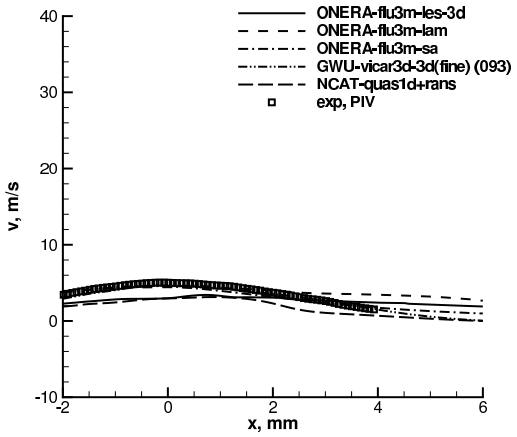


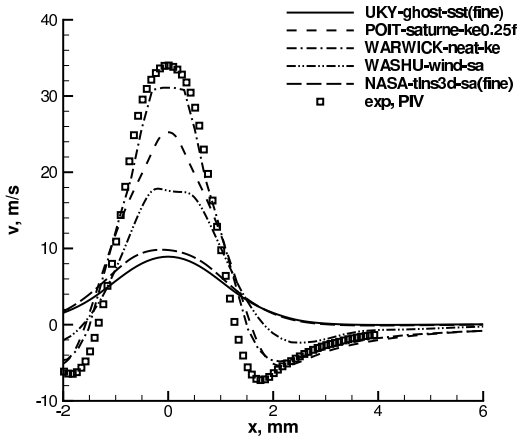


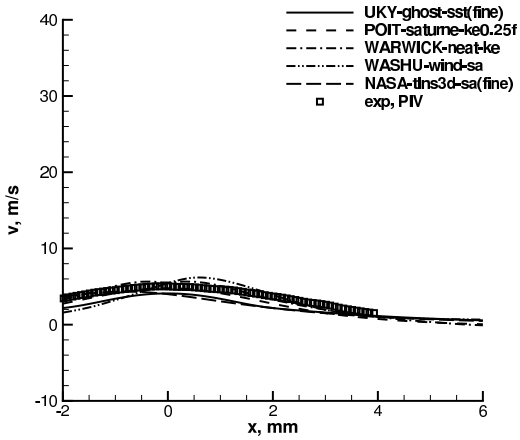
Phase-averaged v-velocity profiles at y=4mm, phase=90°:



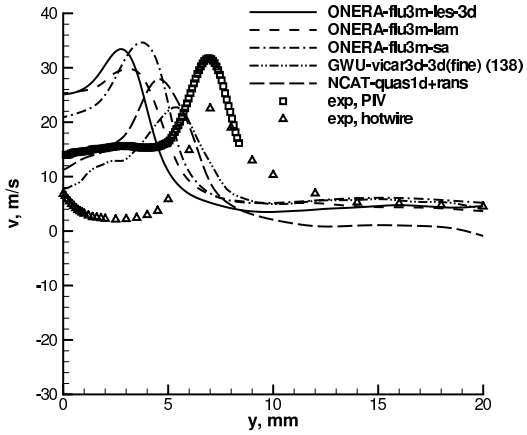
Phase-averaged v-velocity profiles at y=8mm, phase=90°:

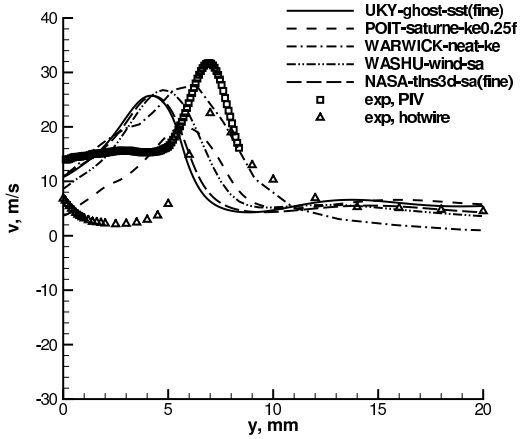




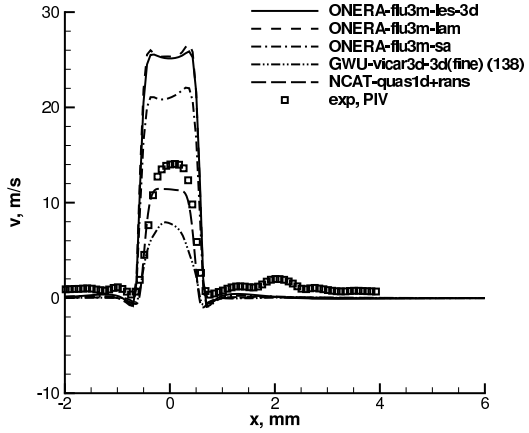


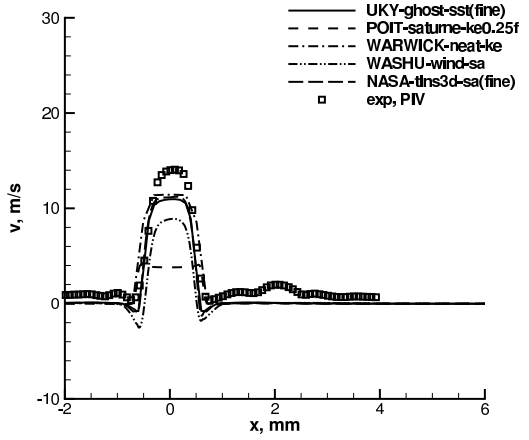
Phase-averaged v-velocity profiles at x=0, phase=135°:



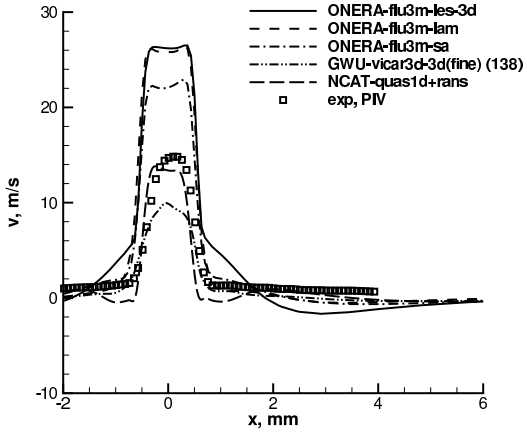


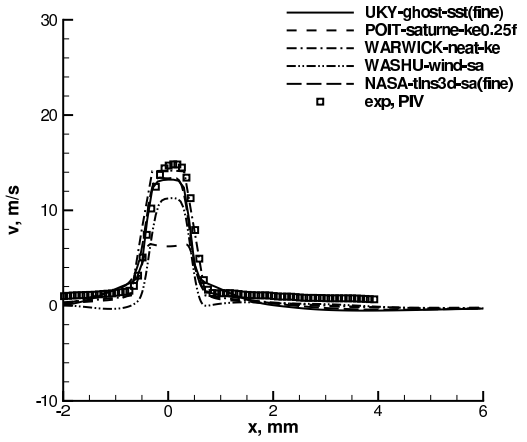
Phase-averaged v-velocity profiles at y=0.1mm, phase=135°:



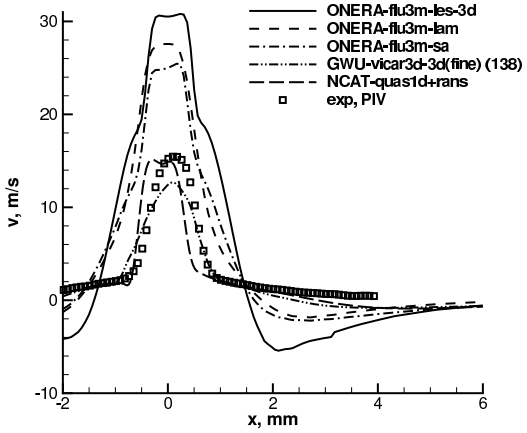


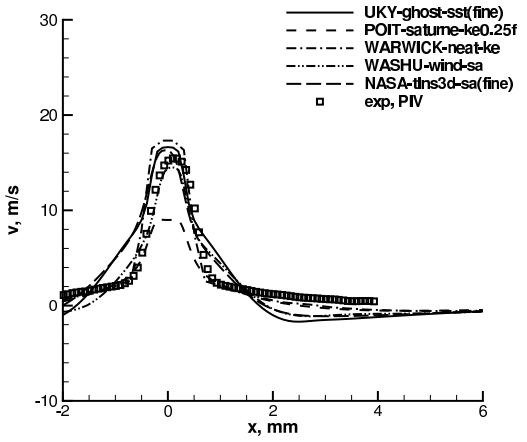
Phase-averaged v-velocity profiles at y=1mm, phase=135°:



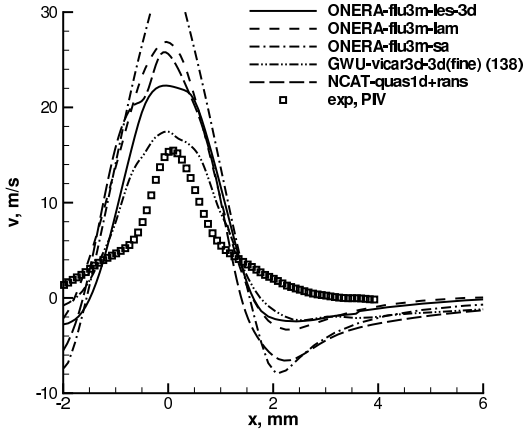


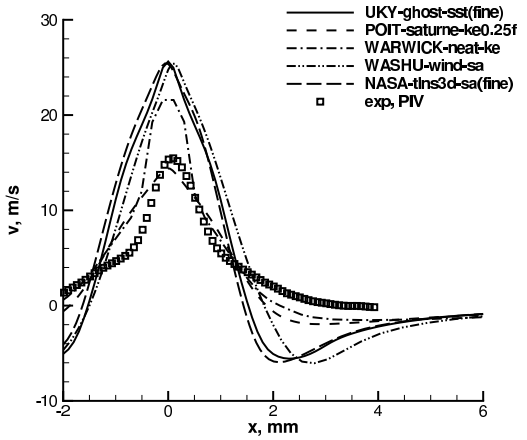
Phase-averaged v-velocity profiles at y=2mm, phase=135°:



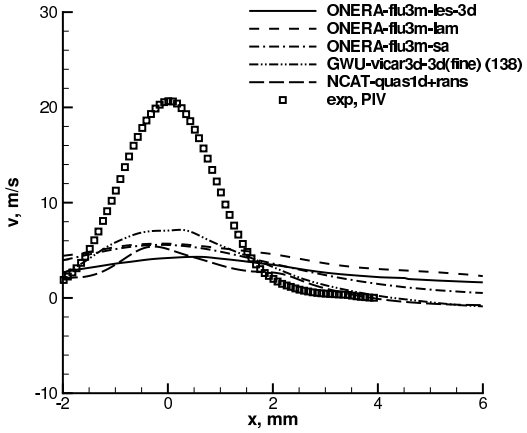


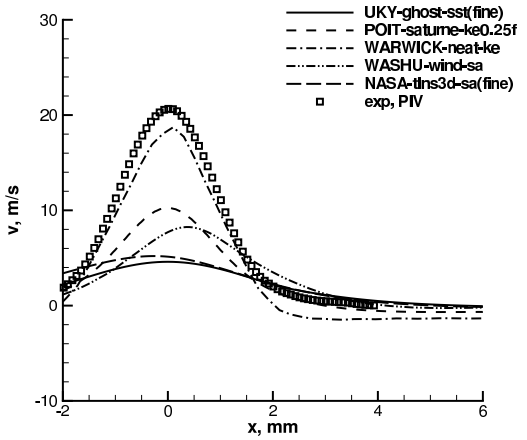
Phase-averaged v-velocity profiles at y=4mm, phase=135°:



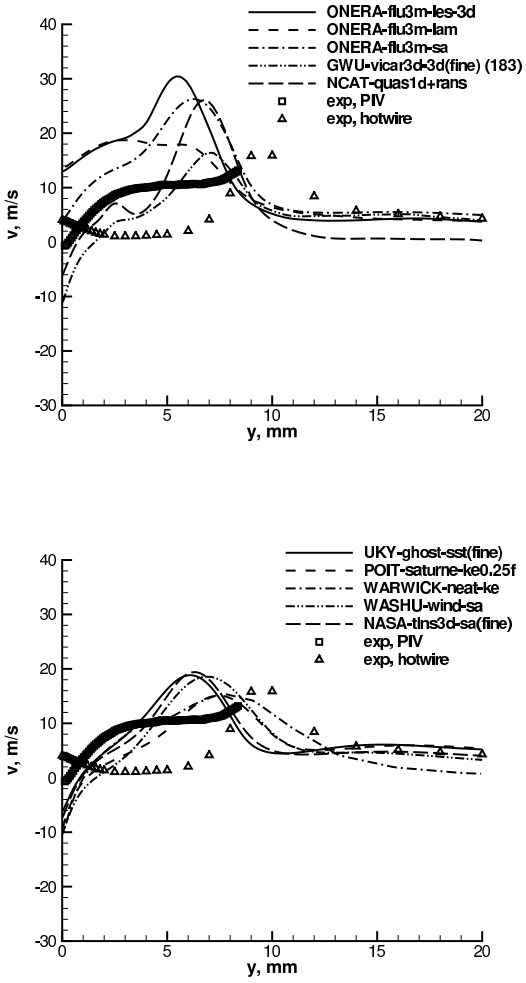


Phase-averaged v-velocity profiles at y=8mm, phase=135°:

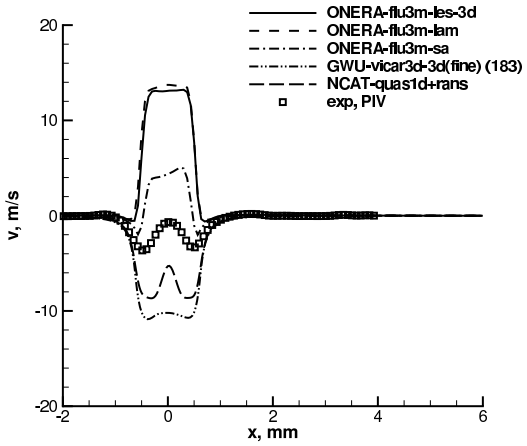


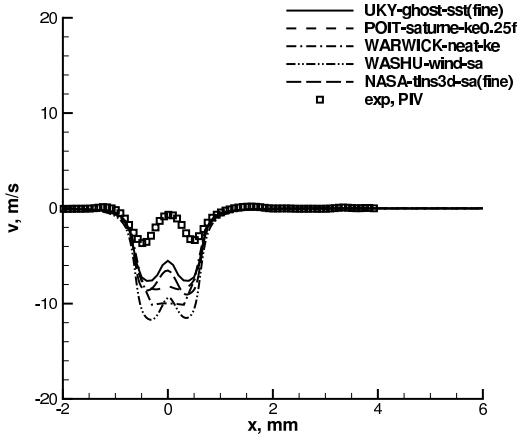


Phase-averaged v-velocity profiles at x=0, phase=180°:

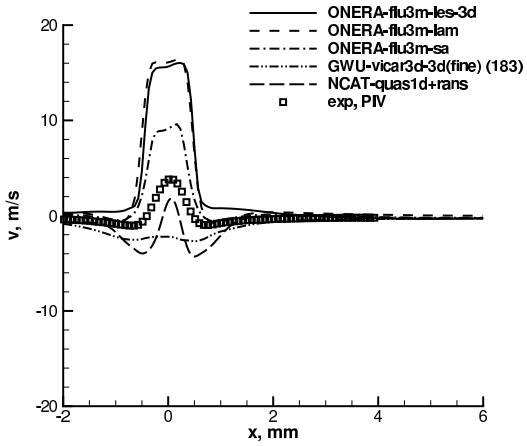


Phase-averaged v-velocity profiles at y=0.1mm, phase=180°:

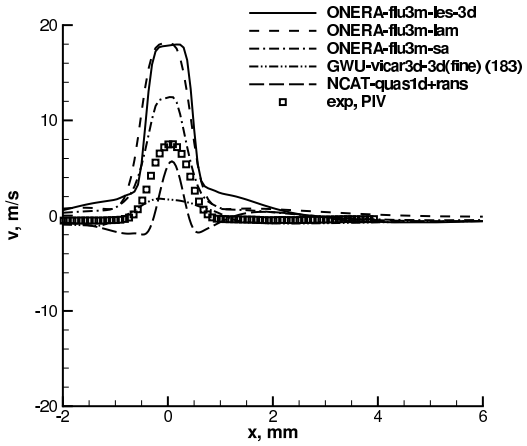


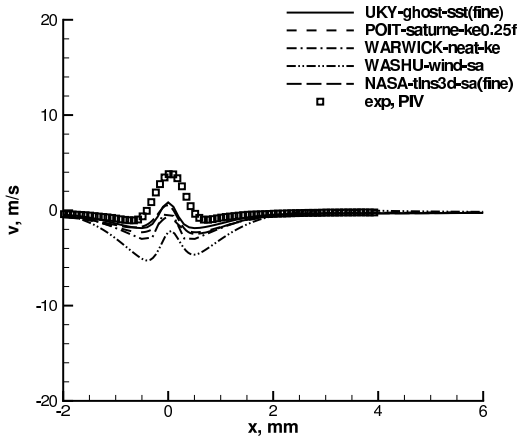


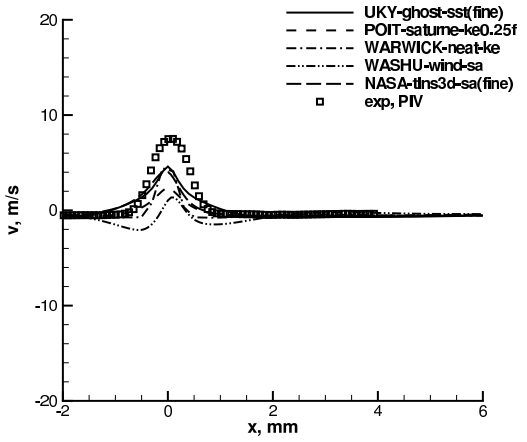
Phase-averaged v-velocity profiles at y=1mm, phase=180°:



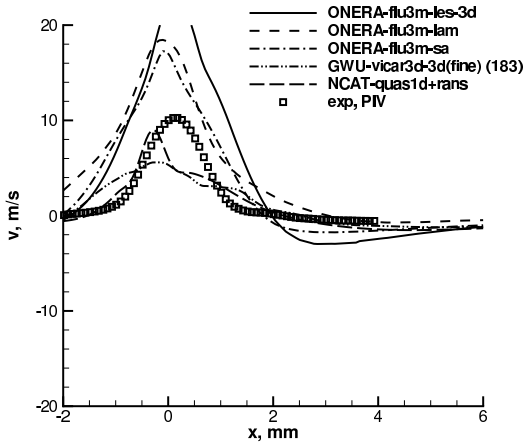
Phase-averaged v-velocity profiles at y=2mm, phase=180°:



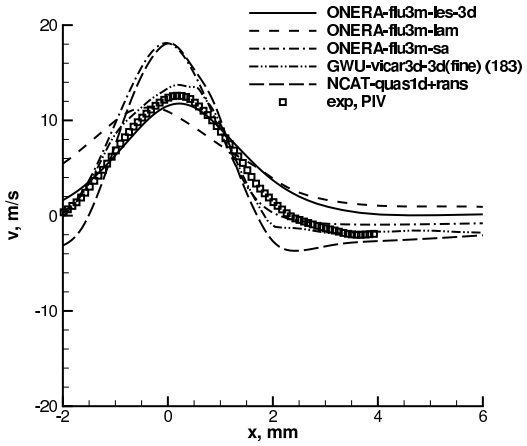


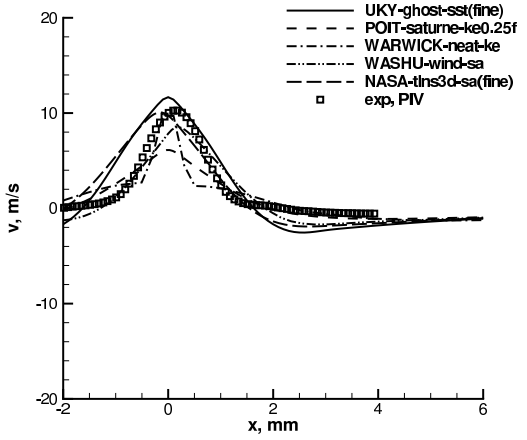


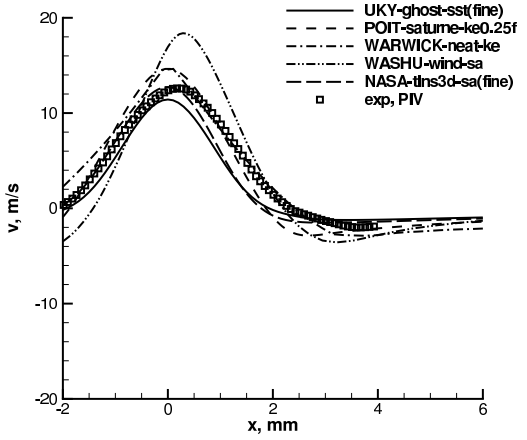
Phase-averaged v-velocity profiles at y=4mm, phase=180°:



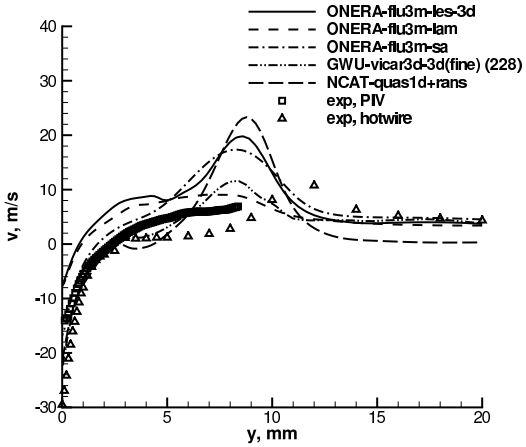
Phase-averaged v-velocity profiles at y=8mm, phase=180°:

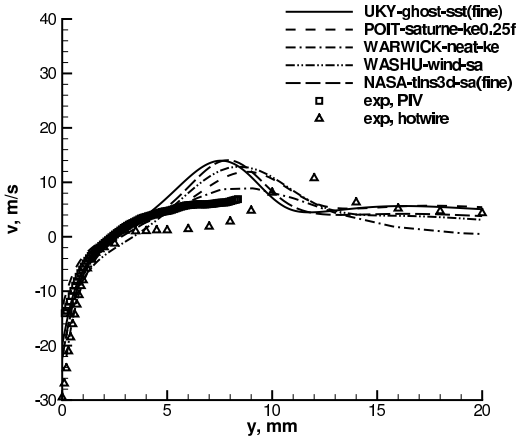




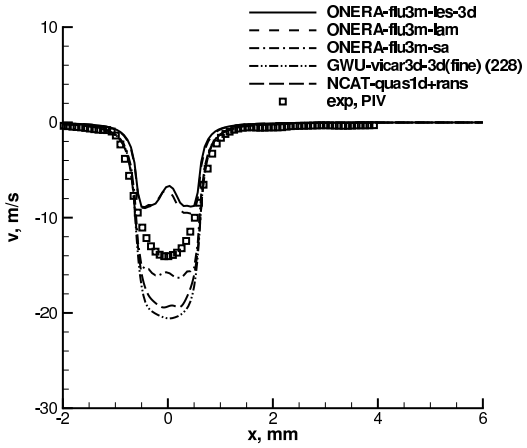


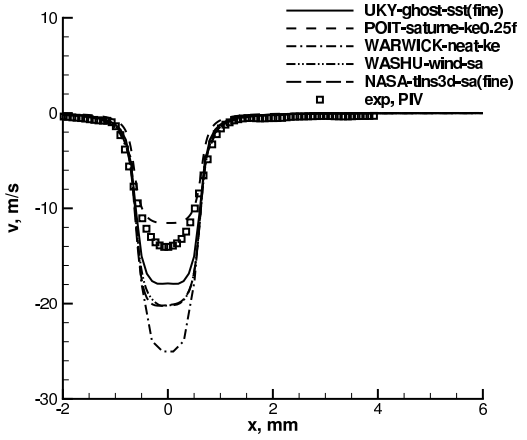
Phase-averaged v-velocity profiles at x=0, phase=225°:



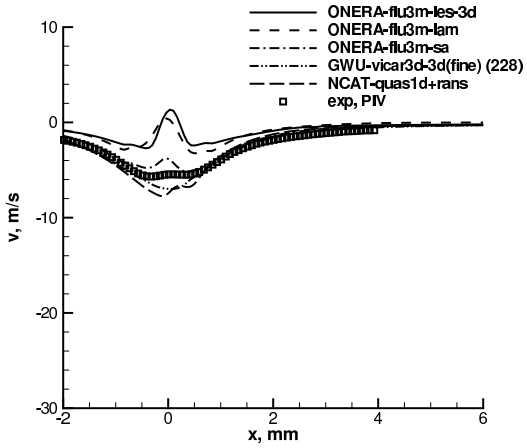


Phase-averaged v-velocity profiles at y=0.1mm, phase=225°:

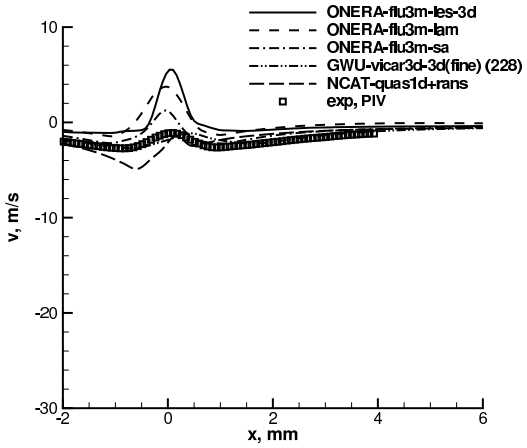


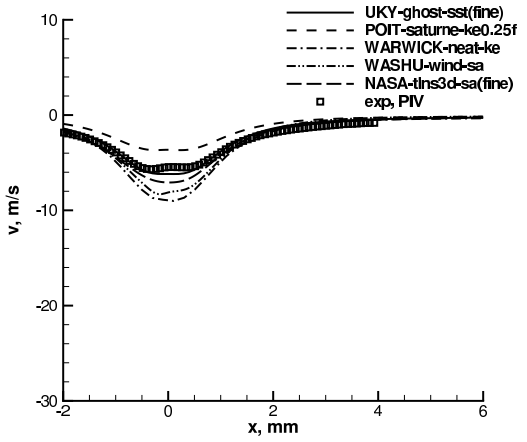


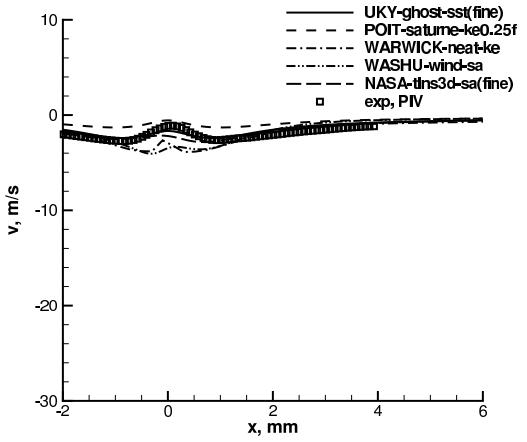
Phase-averaged v-velocity profiles at y=1mm, phase=225°:



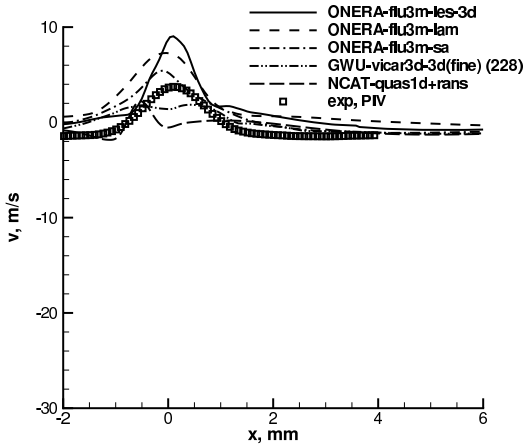
Phase-averaged v-velocity profiles at y=2mm, phase=225°:



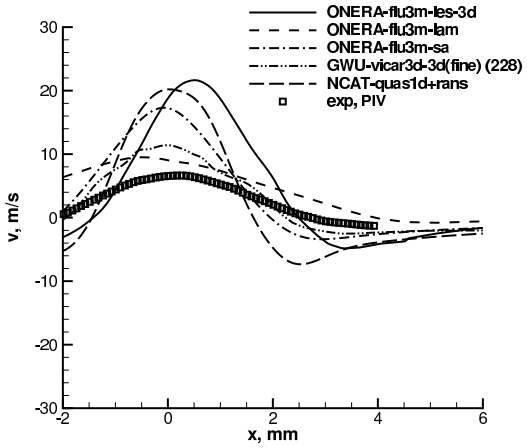


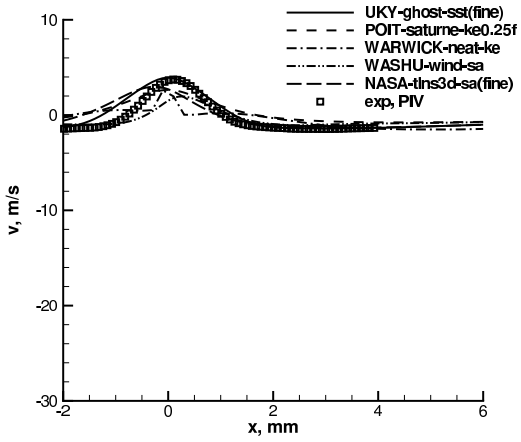


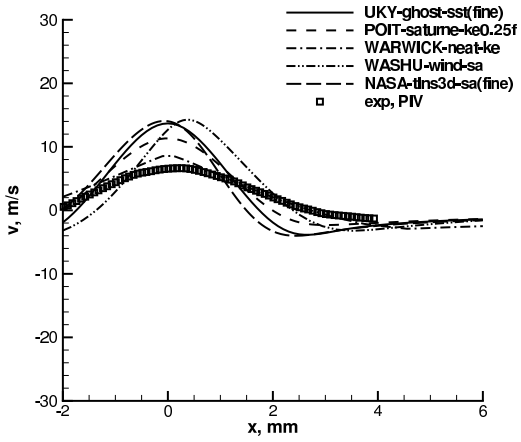
Phase-averaged v-velocity profiles at y=4mm, phase=225°:



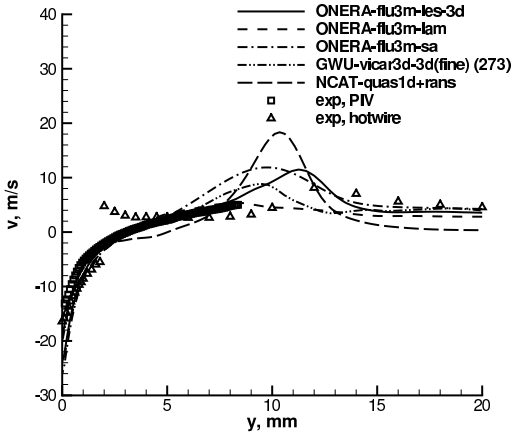
Phase-averaged v-velocity profiles at y=8mm, phase=225°:

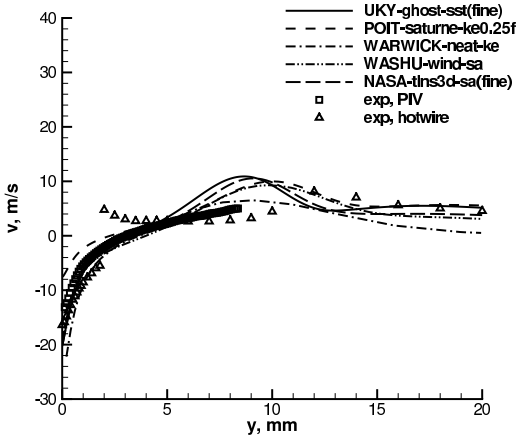




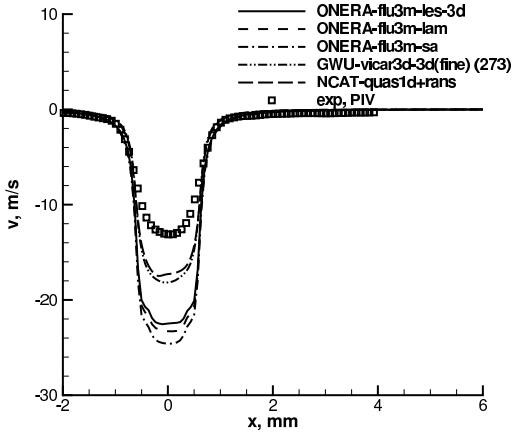


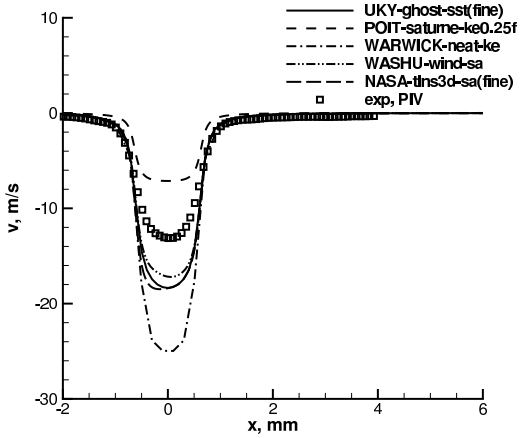
Phase-averaged v-velocity profiles at x=0, phase=270°:



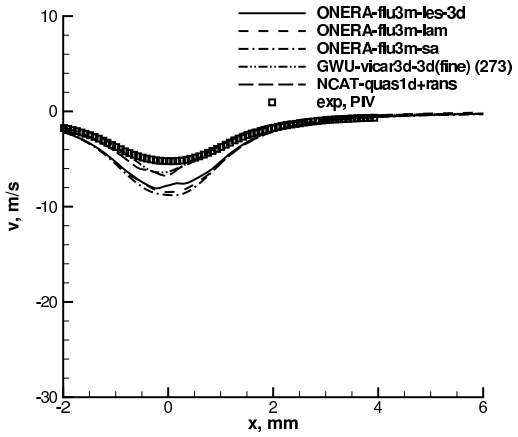


Phase-averaged v-velocity profiles at y=0.1mm, phase=270°:

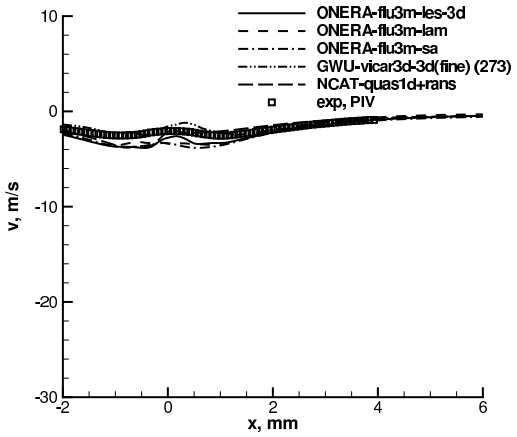


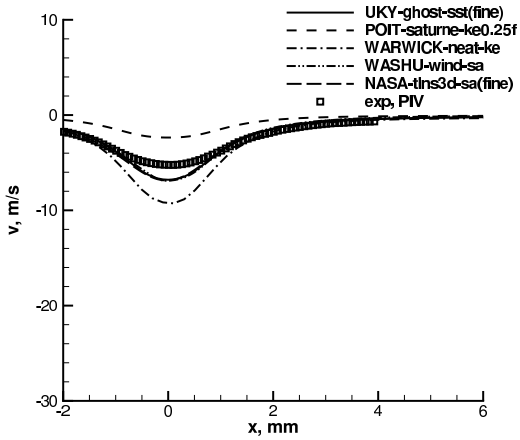


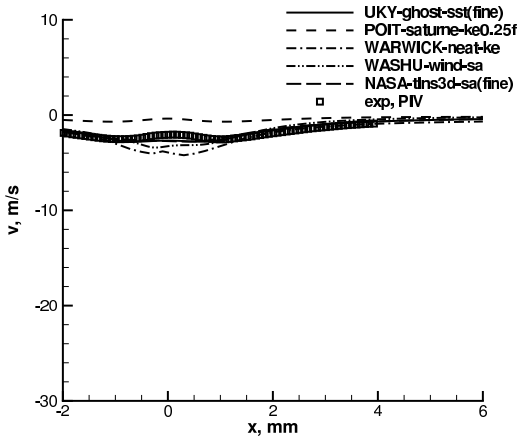
Phase-averaged v-velocity profiles at y=1mm, phase=270°:



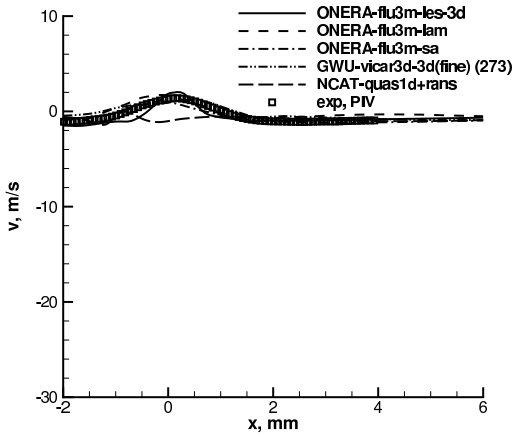
Phase-averaged v-velocity profiles at y=2mm, phase=270°:

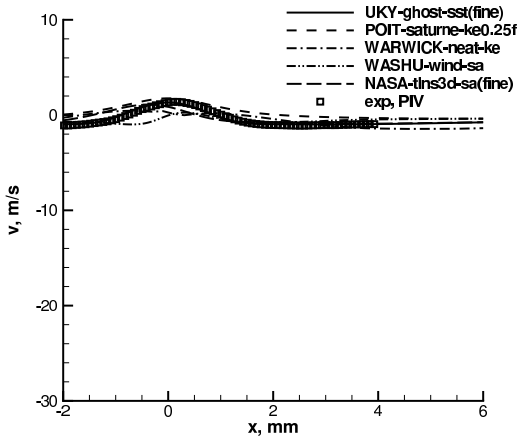




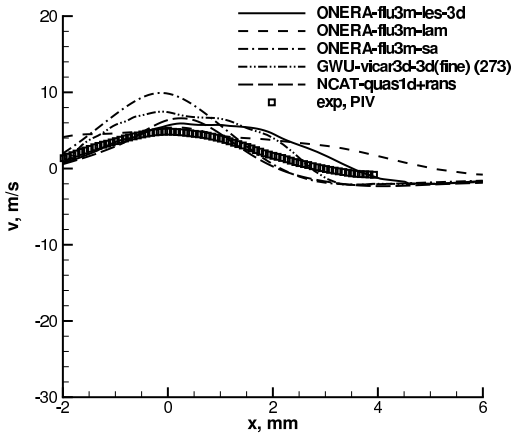


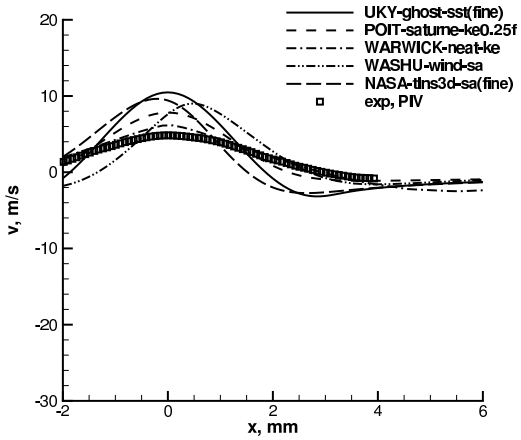
Phase-averaged v-velocity profiles at y=4mm, phase=270°:



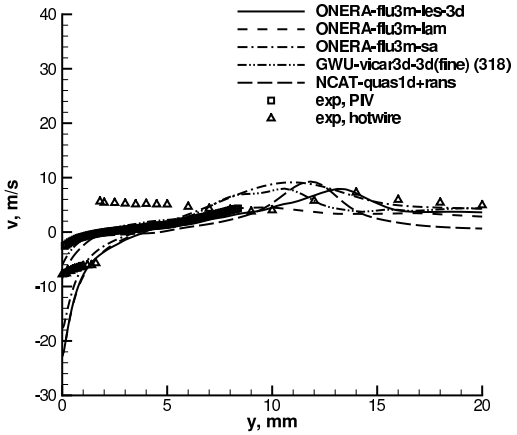


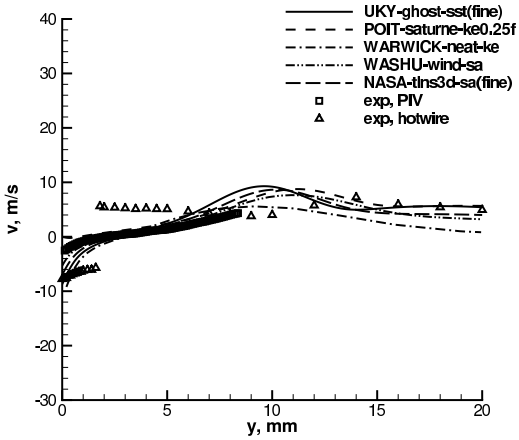
Phase-averaged v-velocity profiles at y=8mm, phase=270°:



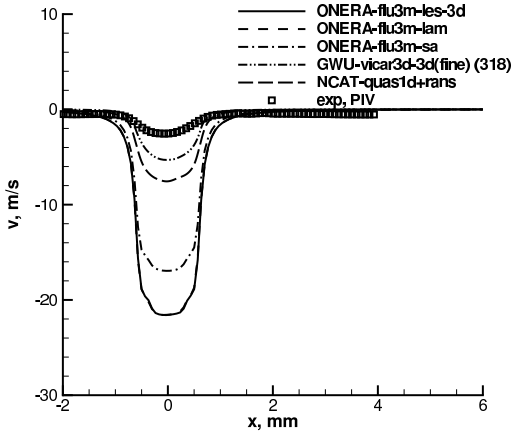


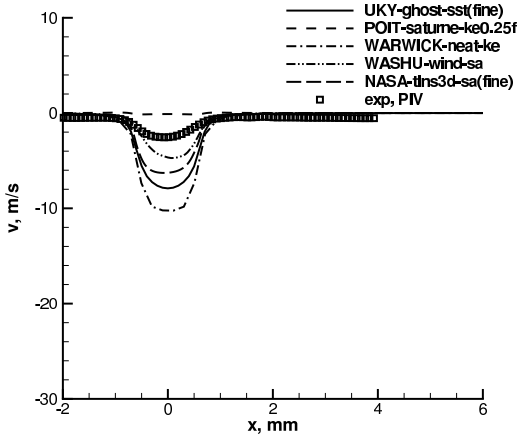
Phase-averaged v-velocity profiles at x=0, phase=315°:



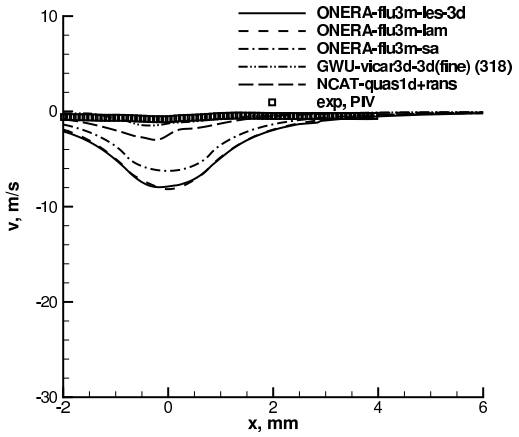


Phase-averaged v-velocity profiles at y=0.1mm, phase=315°:

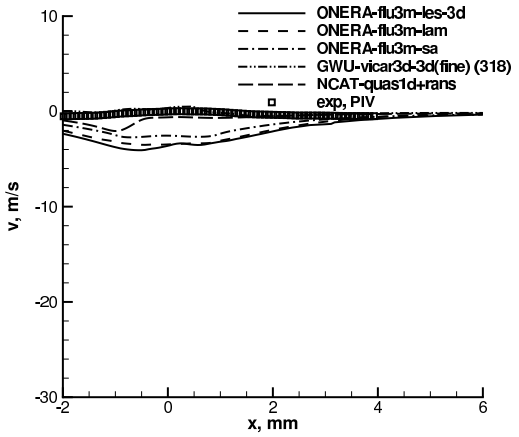


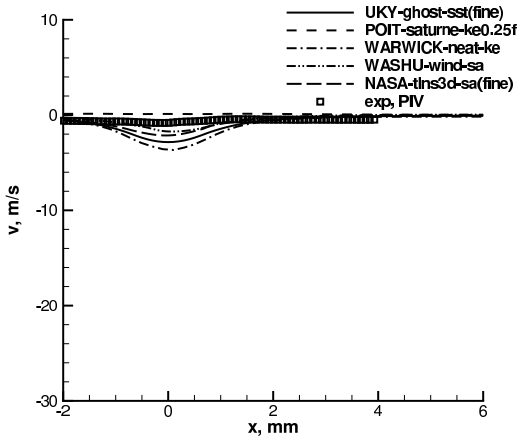


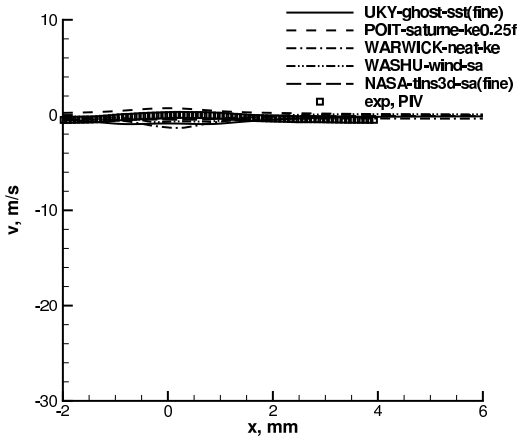
Phase-averaged v-velocity profiles at y=1mm, phase=315°:



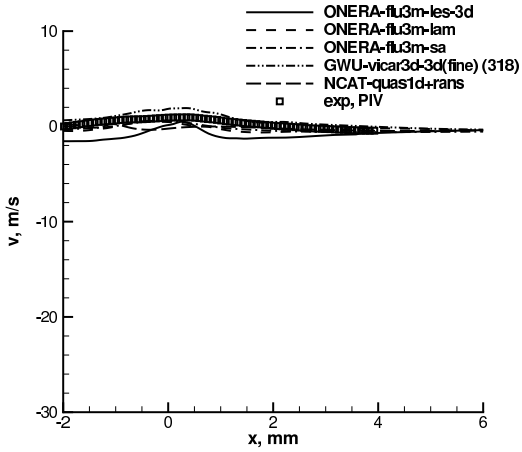
Phase-averaged v-velocity profiles at y=2mm, phase=315°:

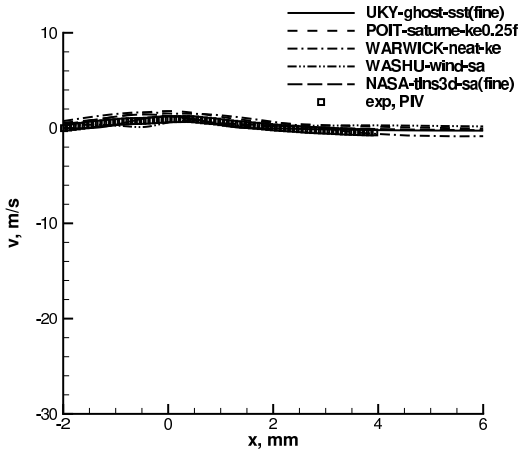




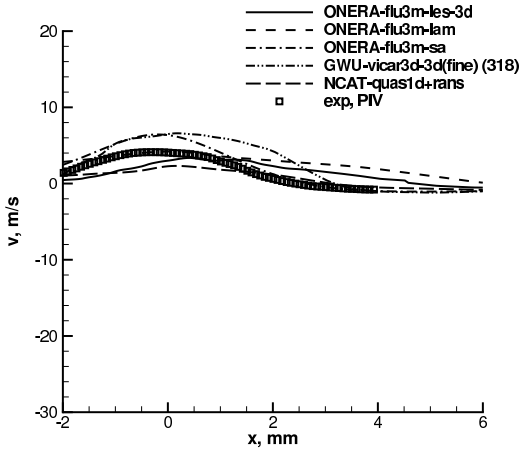


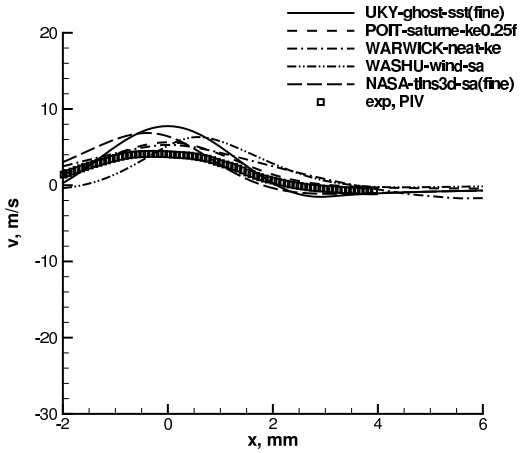
Phase-averaged v-velocity profiles at y=4mm, phase=315°:



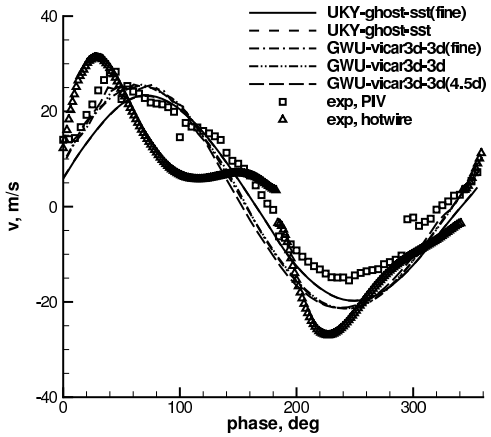


Phase-averaged v-velocity profiles at y=8mm, phase=315°:

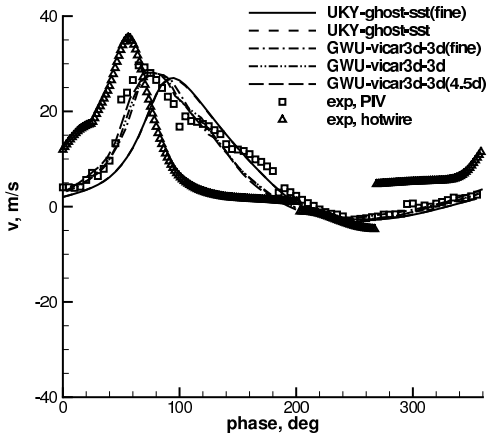


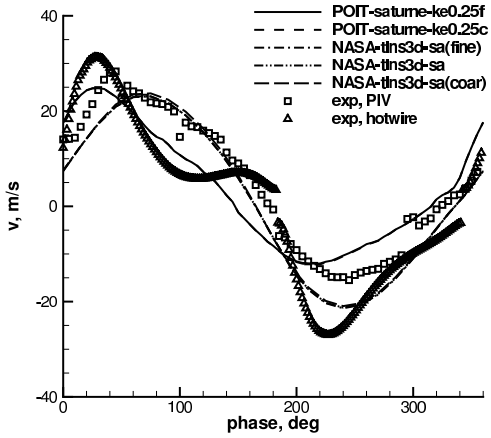


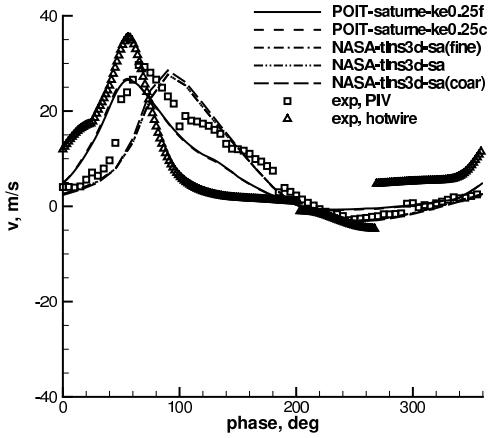
Grid effect on time histories of v-velocity
at x=0, y=0.1mm:



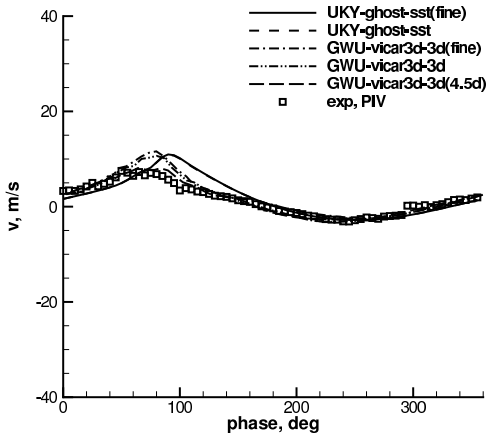
Grid effect on time histories of v-velocity
at x=0, y=2mm:

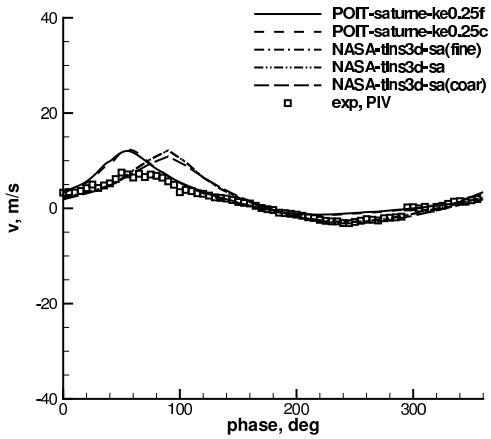




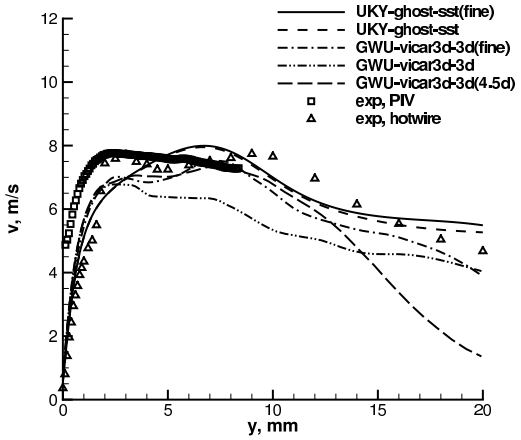


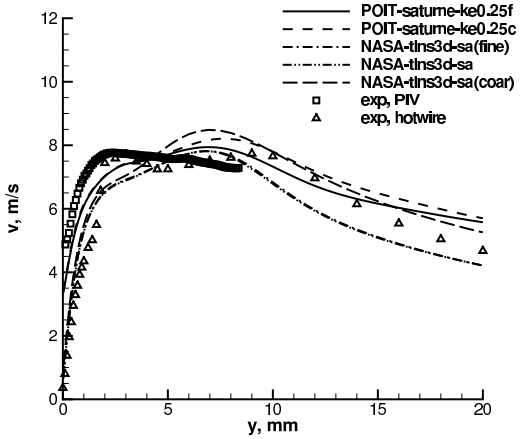
Grid effect on time histories of v-velocity at x=1mm, y=2mm:



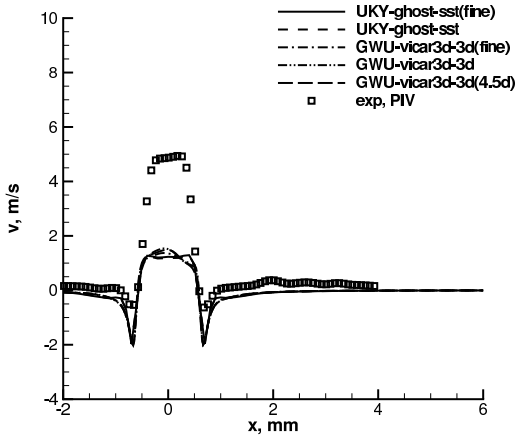


Grid effect on average v-velocity profiles at x=0:

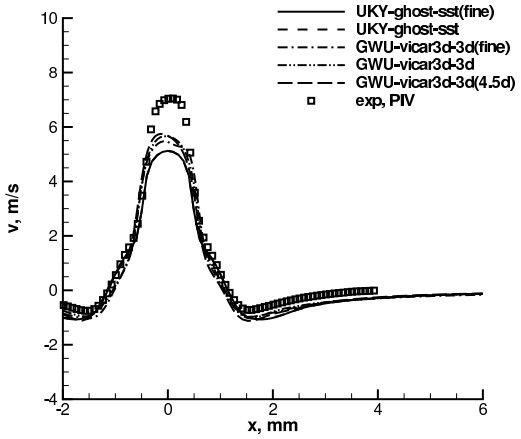


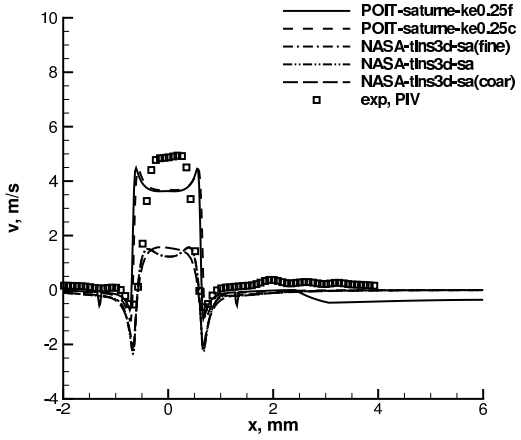


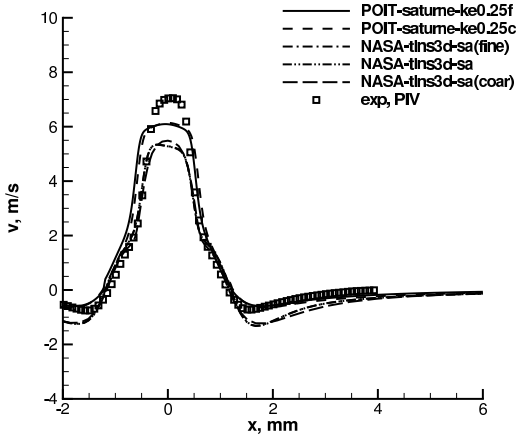
Grid effect on average v-velocity profiles at y=0.1mm:



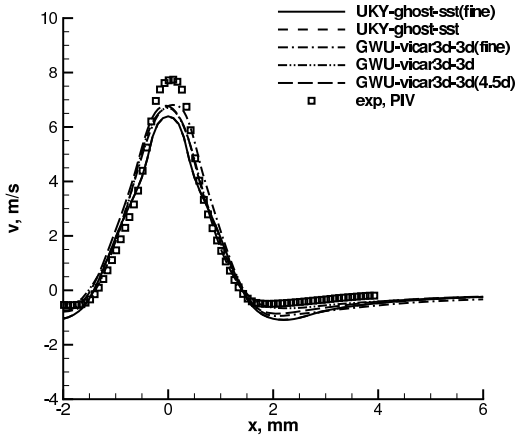
Grid effect on average v-velocity profiles at y=1mm:

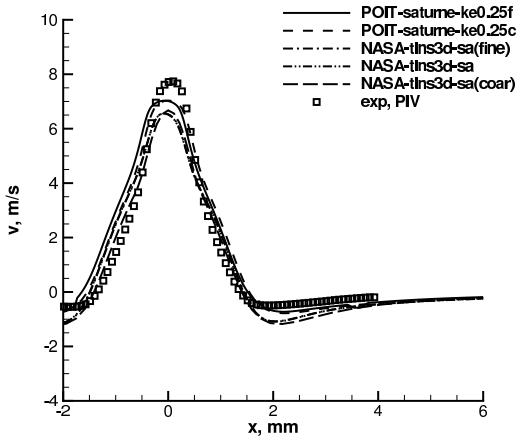




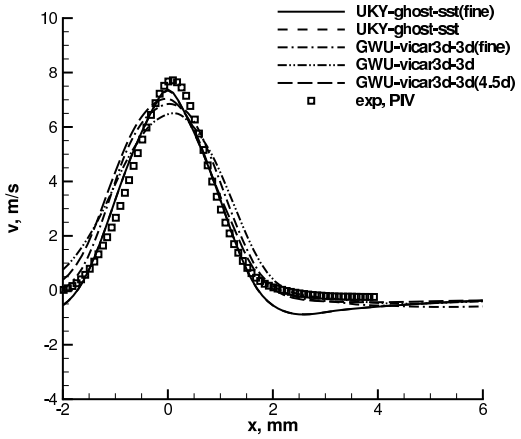


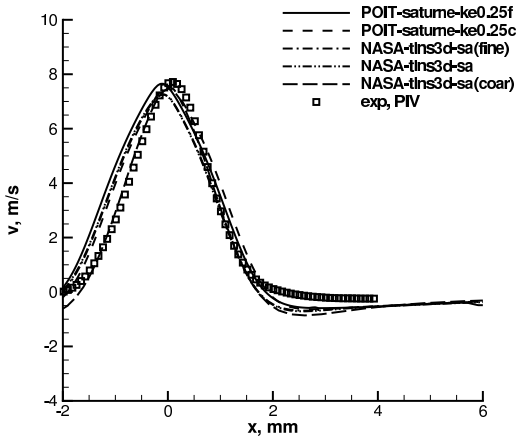
Grid effect on average v-velocity profiles at y=2mm:



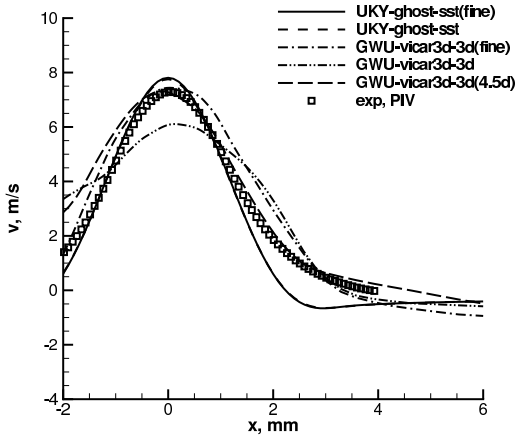


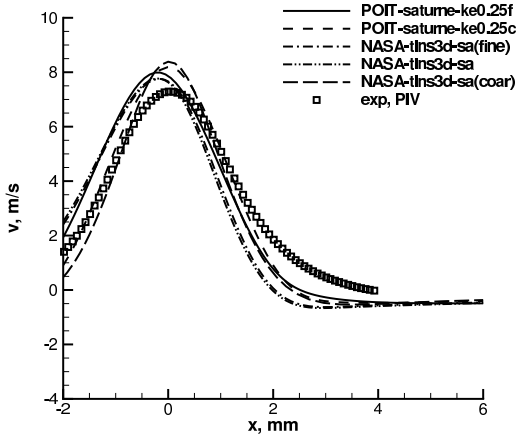
Grid effect on average v-velocity profiles at y=4mm:



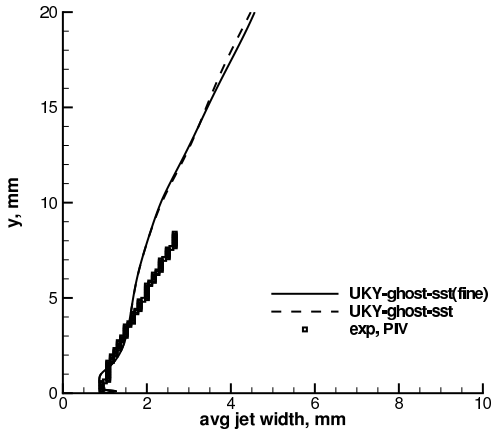


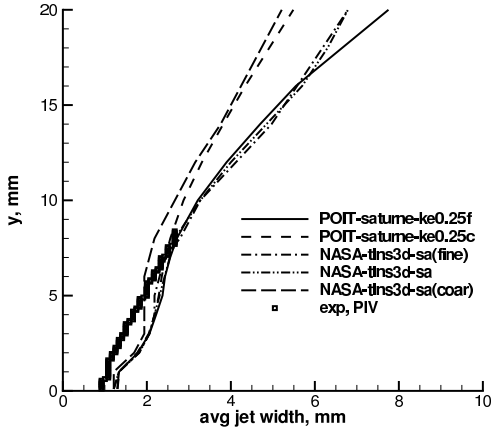
Grid effect on average v-velocity profiles at y=8mm:



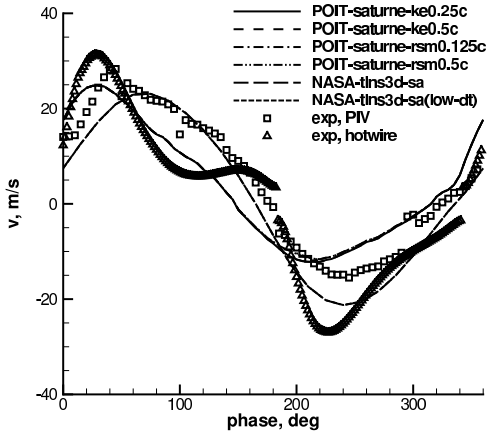


Grid effect on jet width based on average v-velocity:

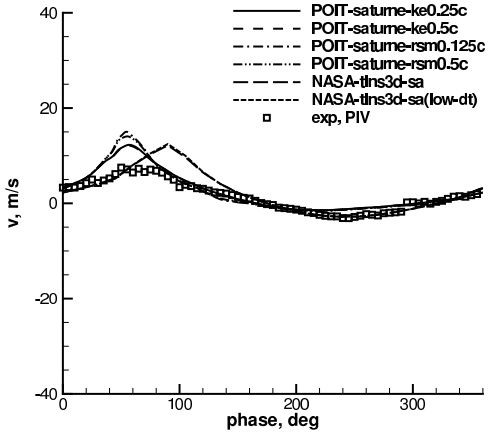




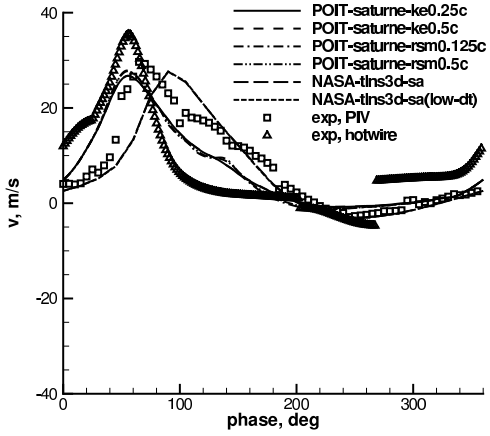
Time step effect on time histories of v-velocity at x=0, y=0.1mm:



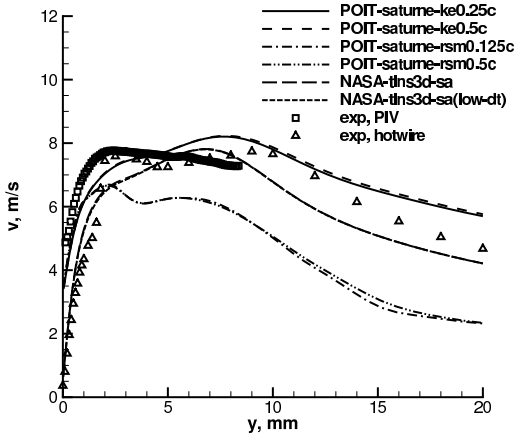
Time step effect on time histories of v-velocity at x=1mm, y=2mm:



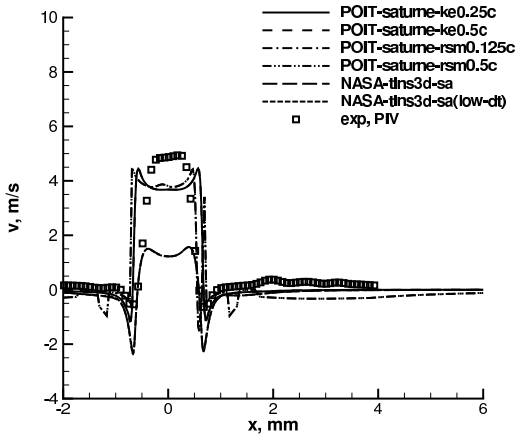
Time step effect on time histories of v-velocity at x=0, y=2mm:



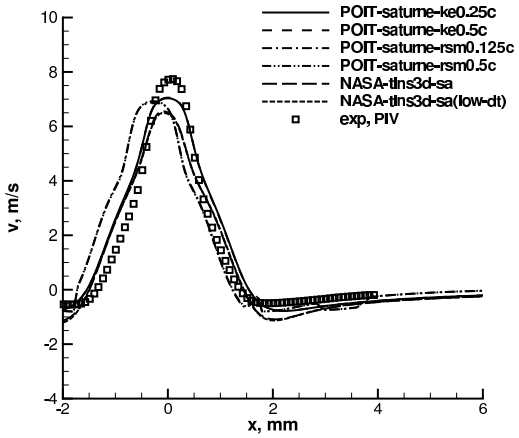
Time step effect on average v-velocity profiles at x=0:



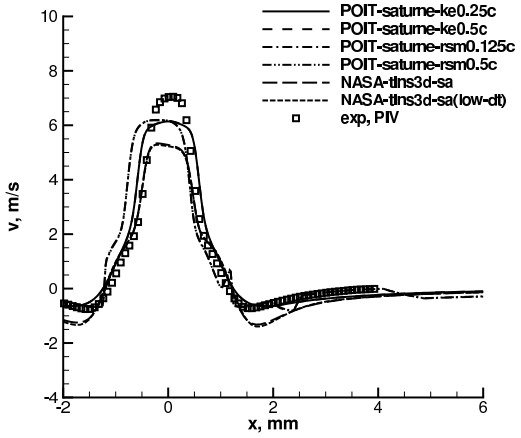
Time step effect on average v-velocity profiles at y=0.1mm:



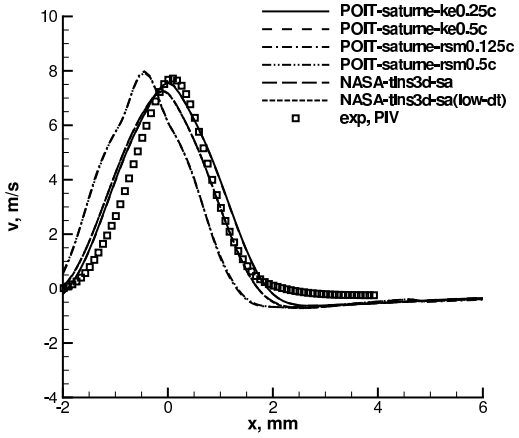
Time step effect on average v-velocity profiles at y=2mm:



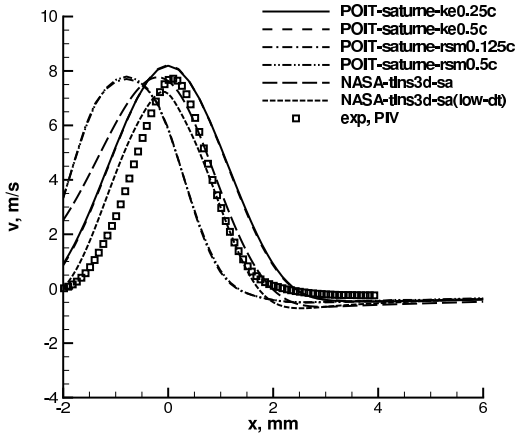
Time step effect on average v-velocity profiles at y=1mm:



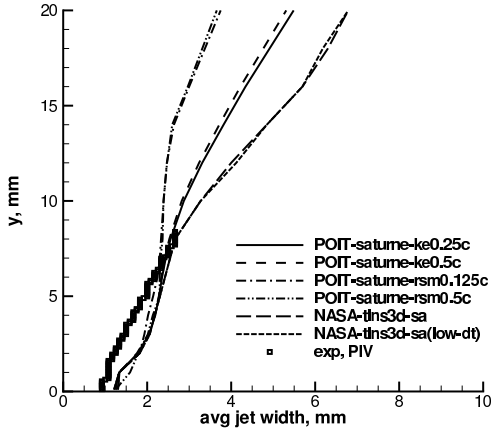
Time step effect on average v-velocity profiles at y=4mm:



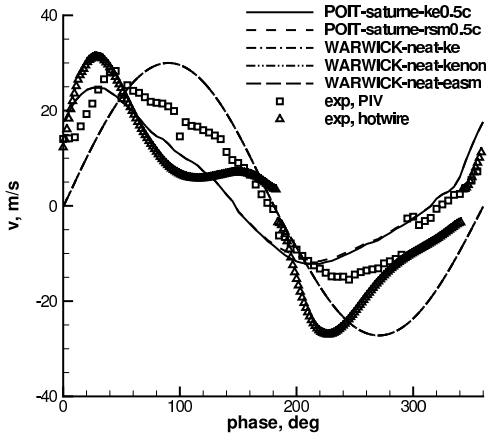
Time step effect on average v-velocity profiles at y=8mm:

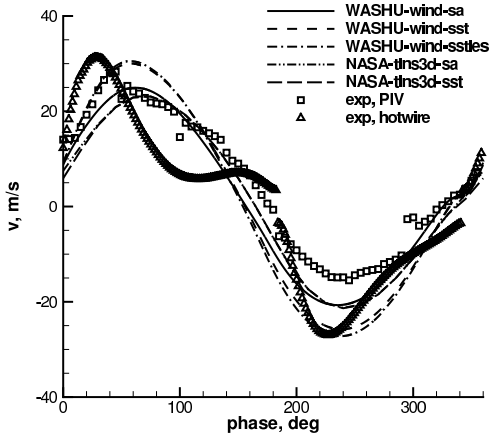


Time step effect on jet width based on average v-velocity:

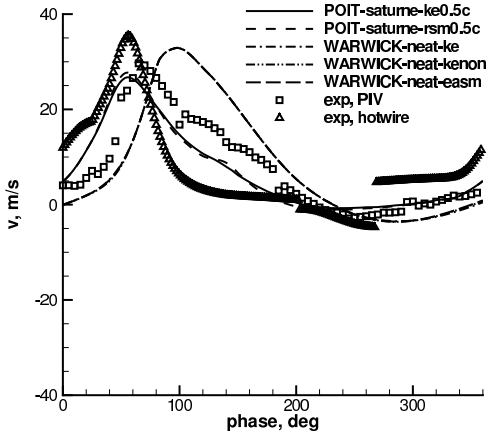


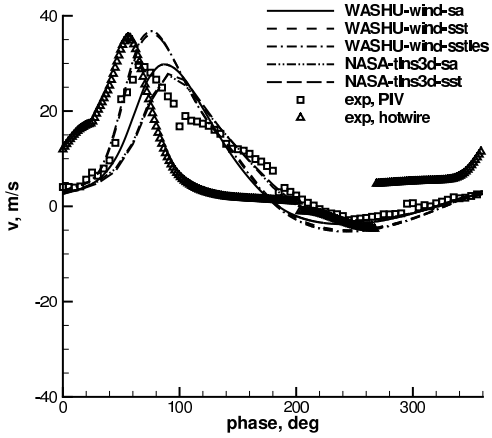
Turbulence model effect on time histories of v-velocity at x=0, y=0.1mm:



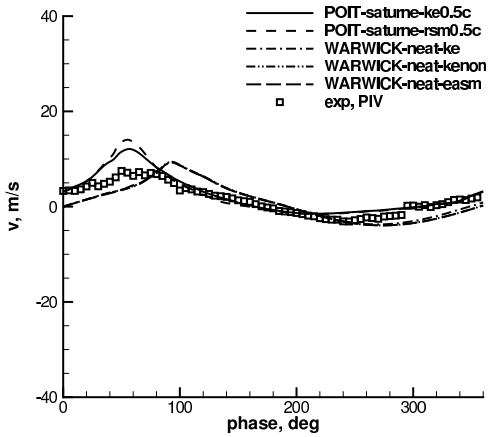


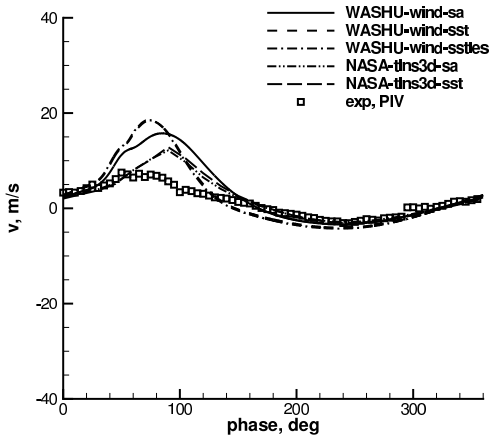
Turbulence model effect on time histories of v-velocity at x=0, y=2mm:



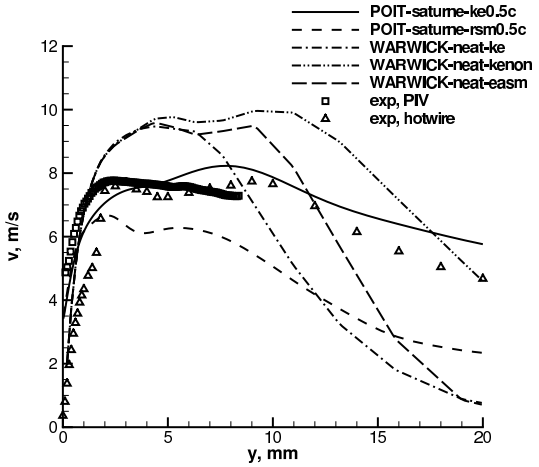


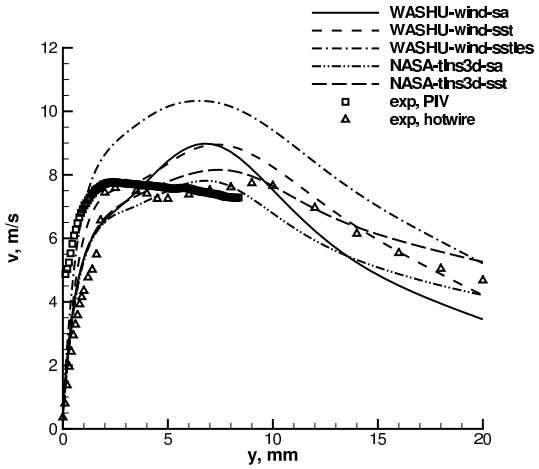
Turbulence model effect on time histories of v-velocity at x=1mm, y=2mm:



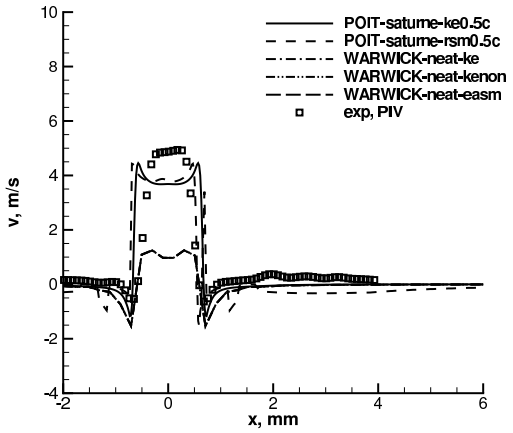


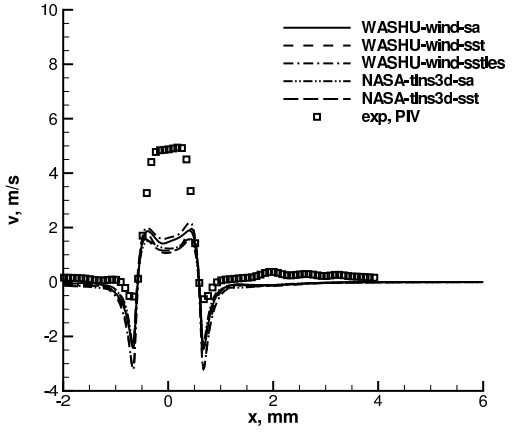
Turbulence model effect on average v-velocity profiles at x=0:



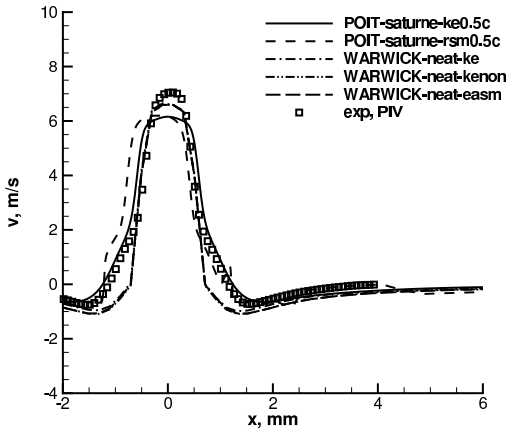


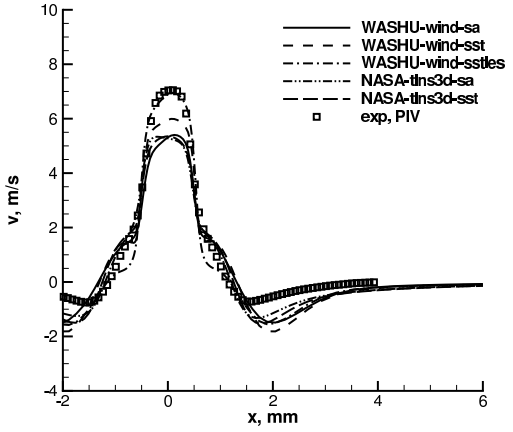
Turbulence model effect on average v-velocity profiles at y=0.1mm:



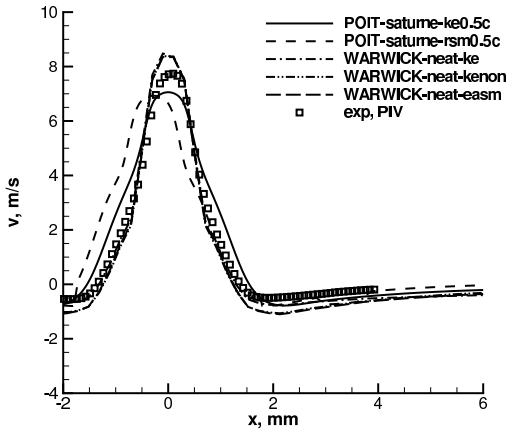


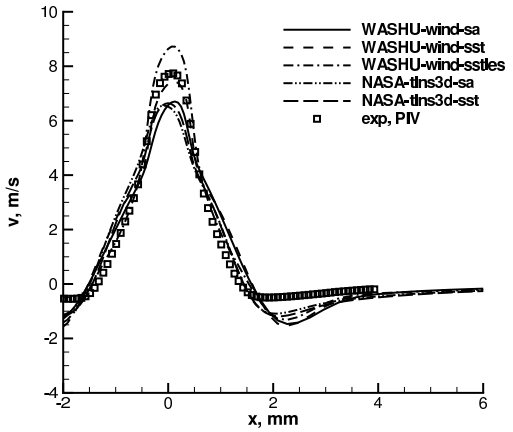
Turbulence model effect on average v-velocity profiles at y=1mm:



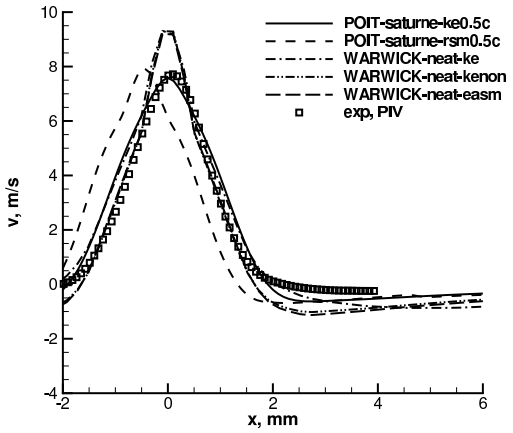


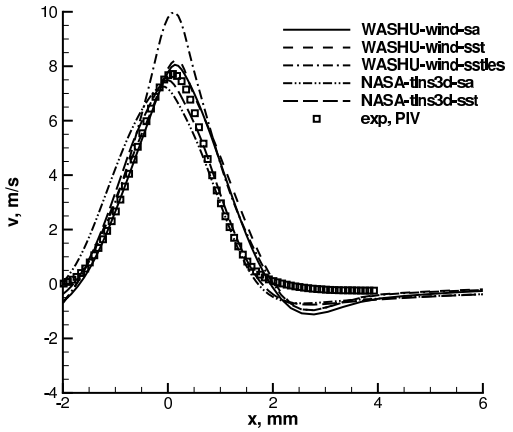
Turbulence model effect on average v-velocity profiles at y=2mm:



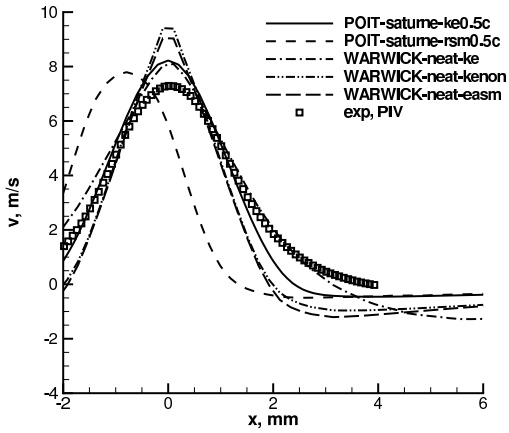


Turbulence model effect on average v-velocity profiles at y=4mm:

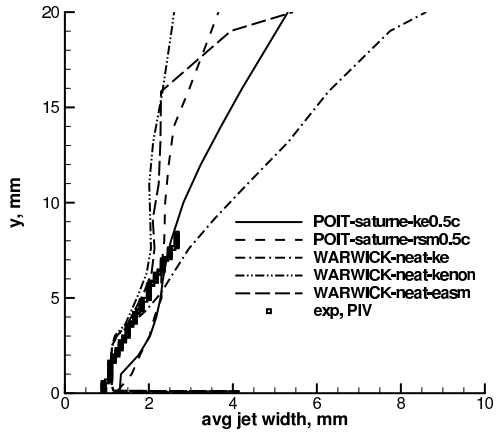


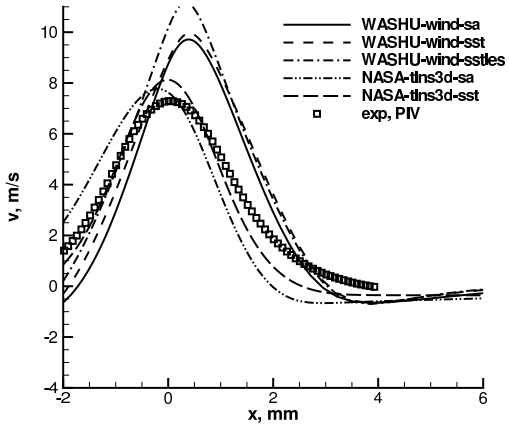


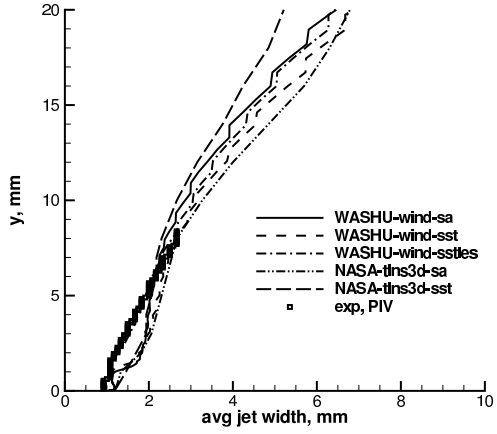
Turbulence model effect on average v-velocity profiles at y=8mm:



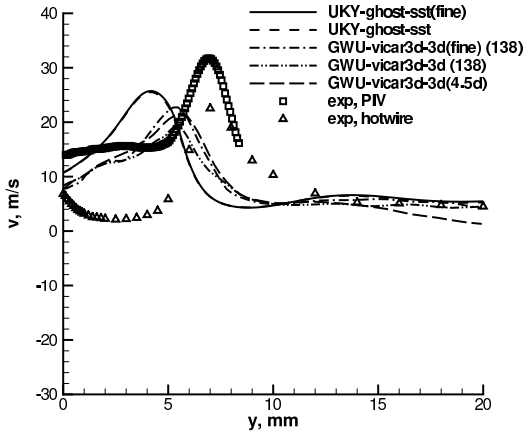
Turbulence model effect on jet width based on average v-velocity:

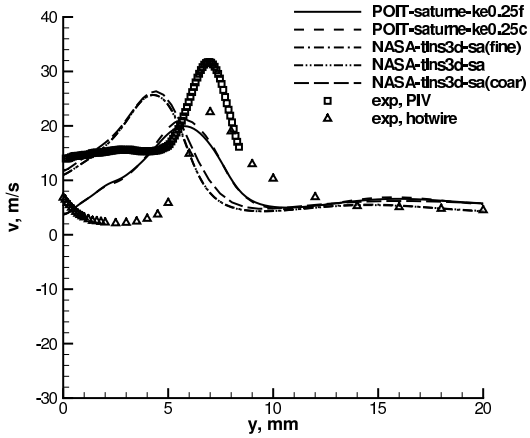




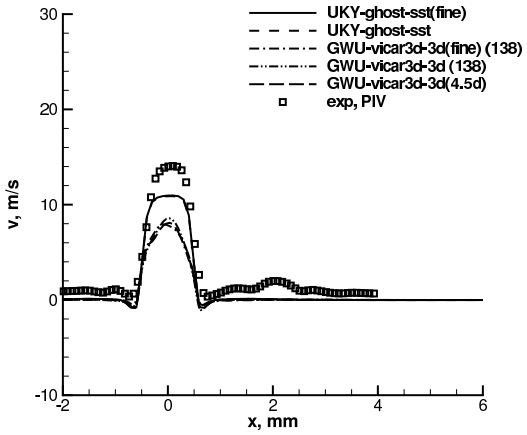


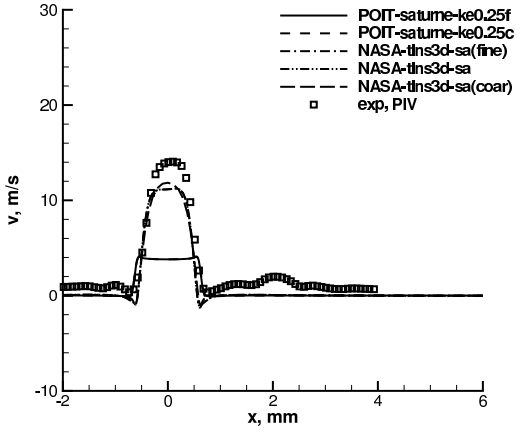
Grid effect on phase-averaged v-velocity profiles at x=0, phase=135°:



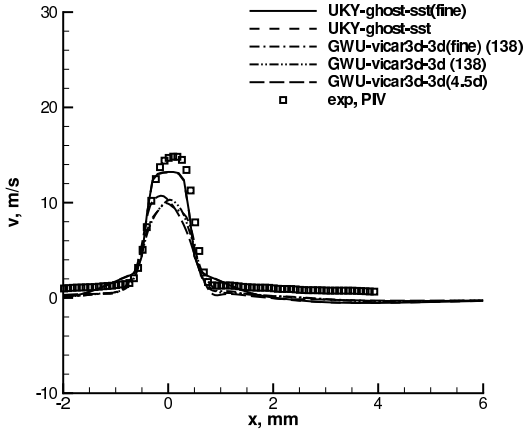


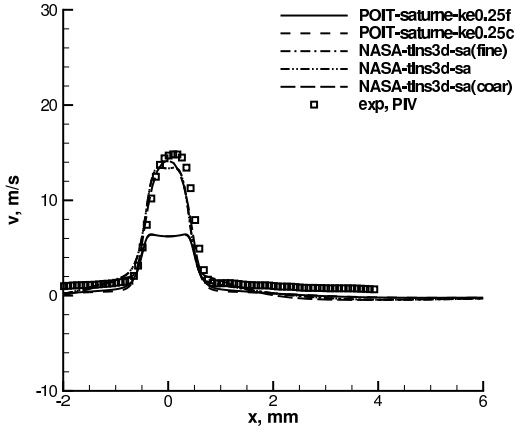
Grid effect on phase-averaged v-velocity profiles at y=0.1mm, phase=135°:



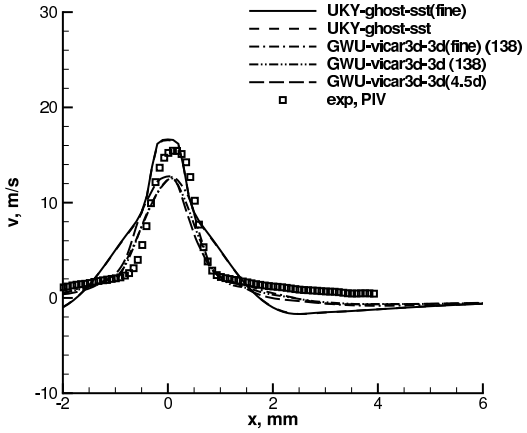


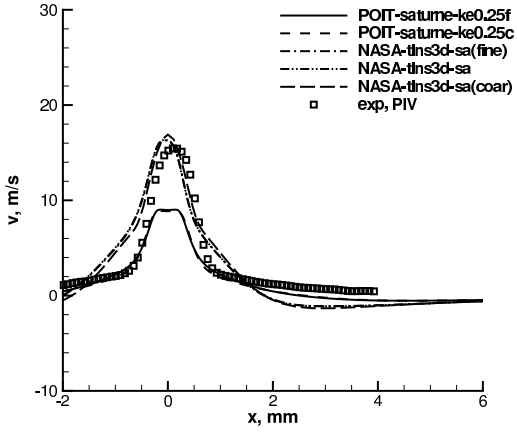
Grid effect on phase-averaged v-velocity profiles at y=1mm, phase=135°:



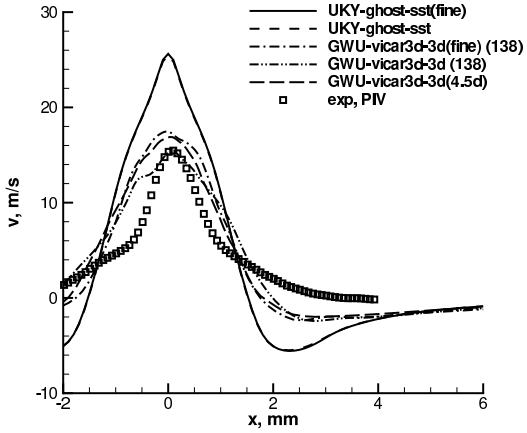


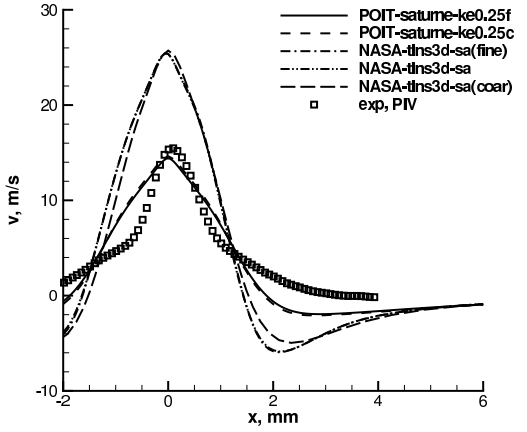
Grid effect on phase-averaged v-velocity profiles at y=2mm, phase=135°:



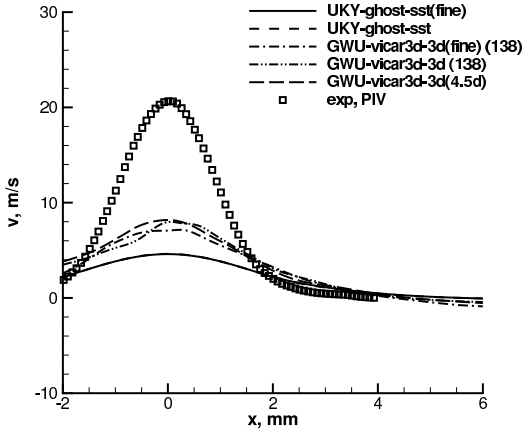


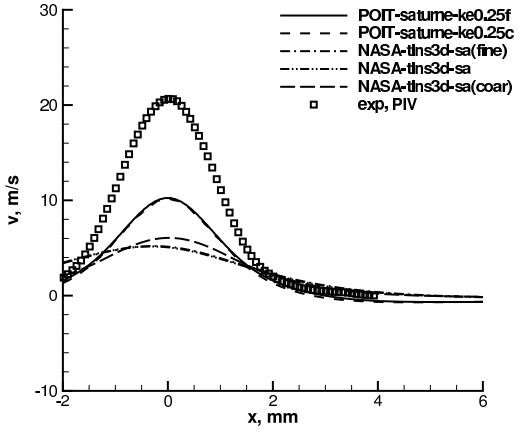
Grid effect on phase-averaged v-velocity profiles at y=4mm, phase=135°:



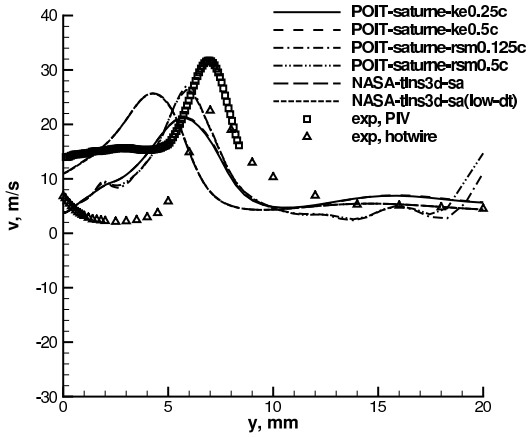


Grid effect on phase-averaged v-velocity profiles at y=8mm, phase=135°:

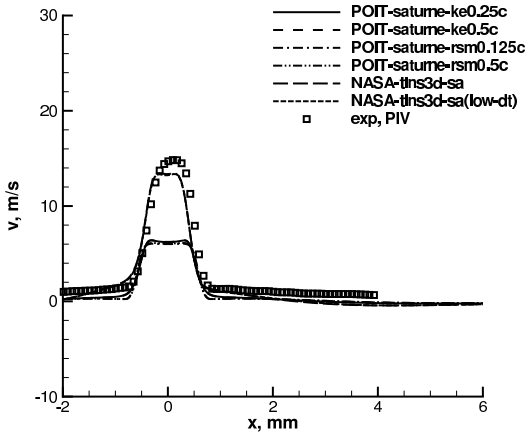




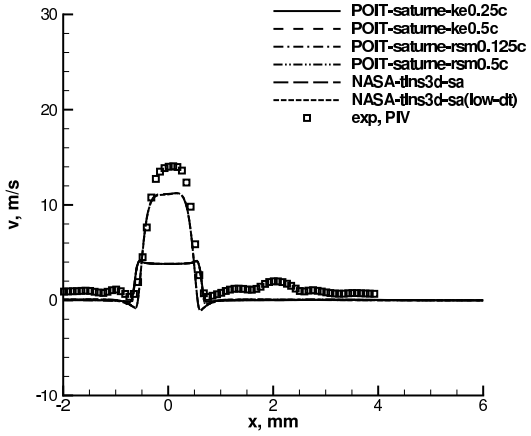
Time step effect on phase-averaged v-velocity profiles at x=0, phase=135°:



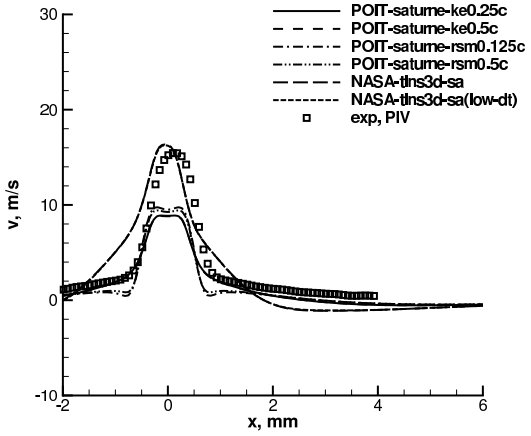
Time step effect on phase-averaged v-velocity profiles at y=1mm, phase=135°:



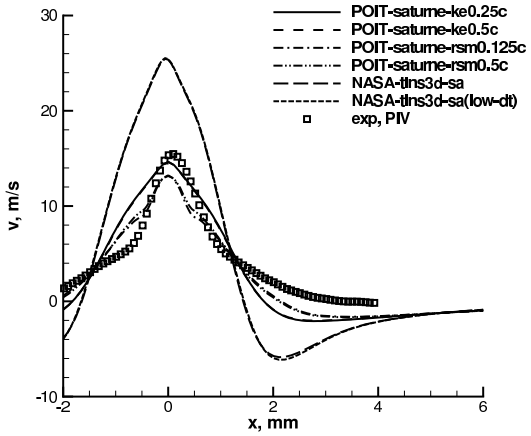
Time step effect on phase-averaged v-velocity profiles at y=0.1mm, phase=135°:



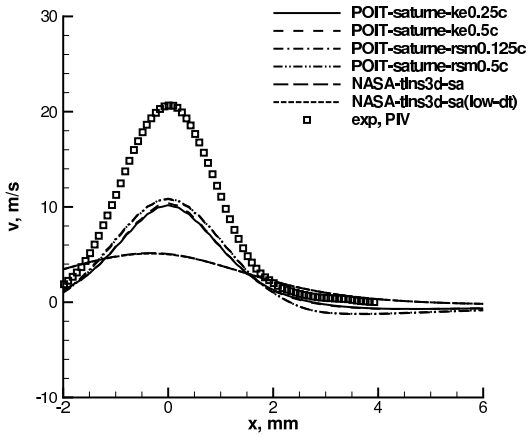
Time step effect on phase-averaged v-velocity profiles at y=2mm, phase=135°:



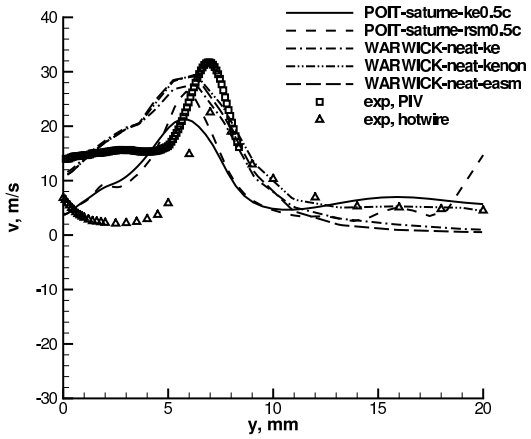
Time step effect on phase-averaged v-velocity profiles at y=4mm, phase=135°:

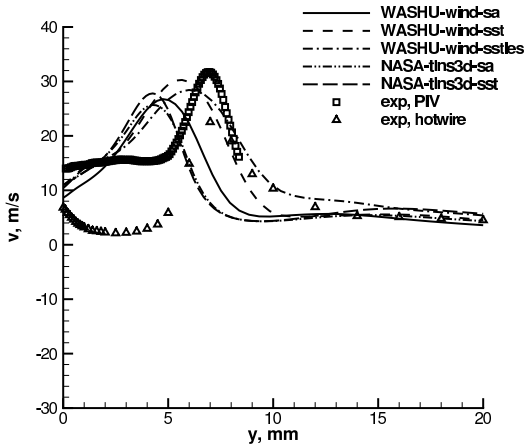


Time step effect on phase-averaged v-velocity profiles at y=8mm, phase=135°:

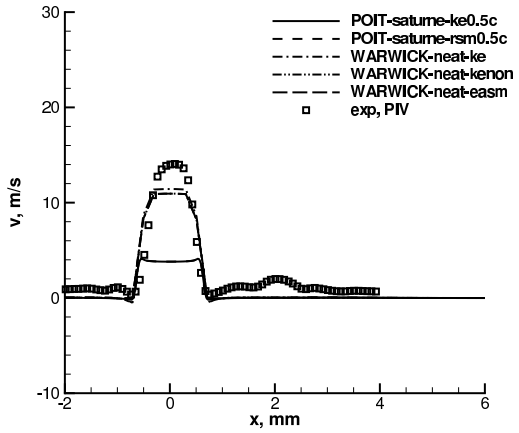


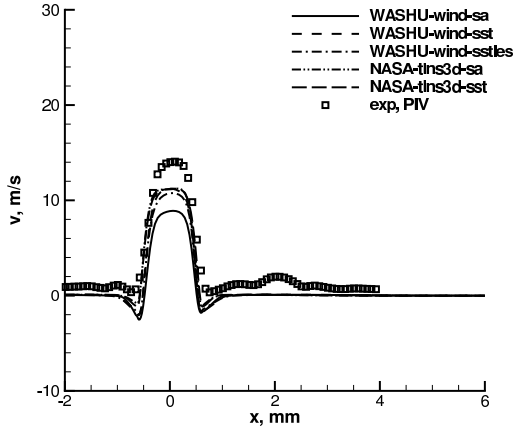
Turbulence model effect on phase-averaged v-velocity profiles at x=0, phase=135°:



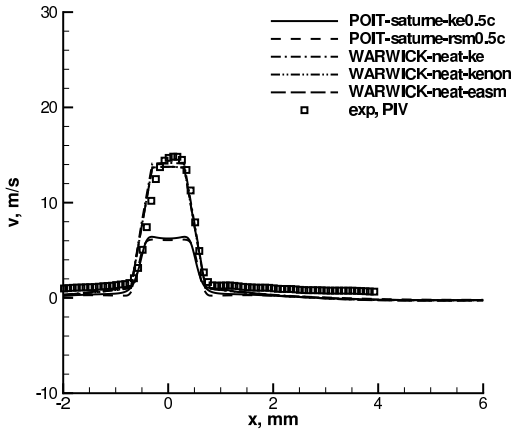


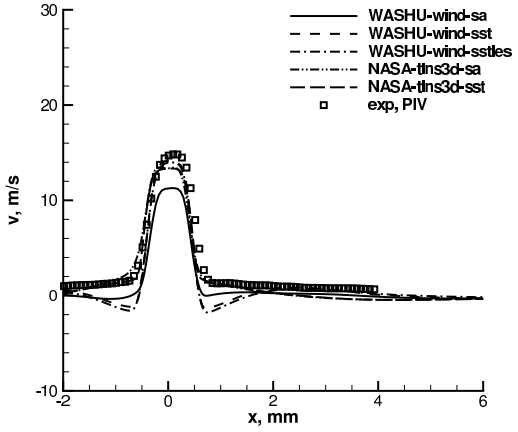
Turbulence model effect on phase-averaged v-velocity profiles at y=0.1mm, phase=135°:



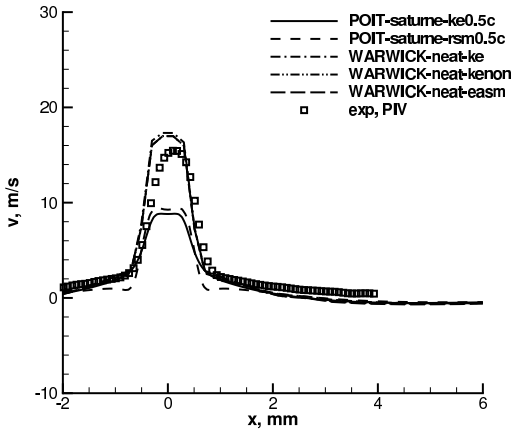


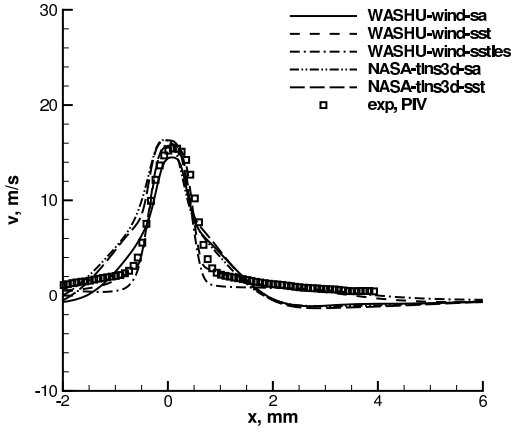
Turbulence model effect on phase-averaged v-velocity profiles at y=1mm, phase=135°:



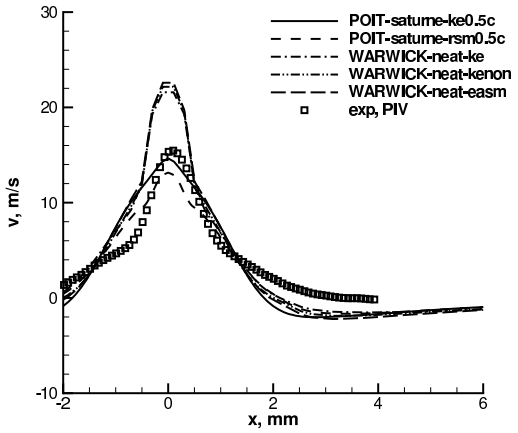


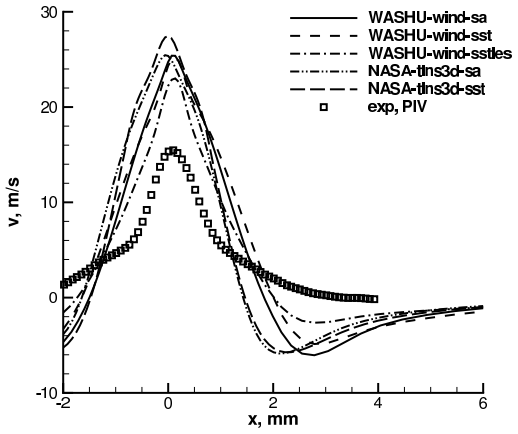
Turbulence model effect on phase-averaged v-velocity profiles at y=2mm, phase=135°:



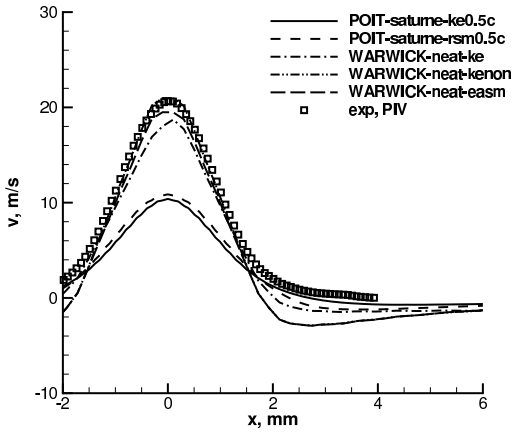


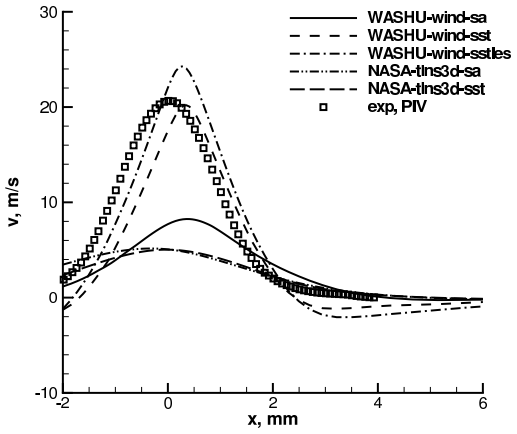
Turbulence model effect on phase-averaged v-velocity profiles at y=4mm, phase=135°:



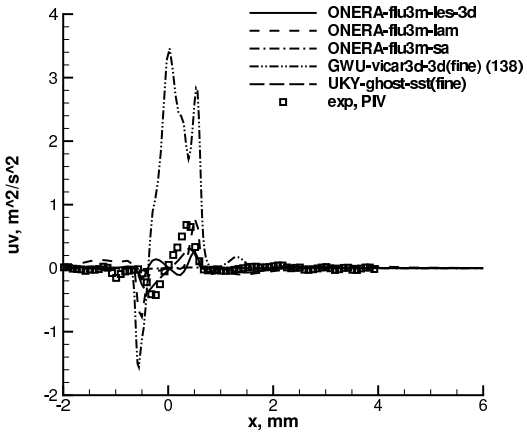


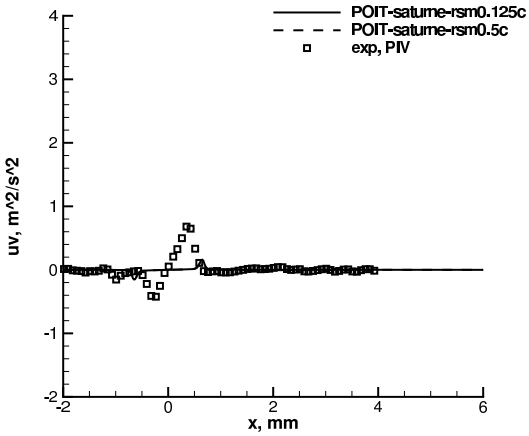
Turbulence model effect on phase-averaged v-velocity profiles at y=8mm, phase=135°:



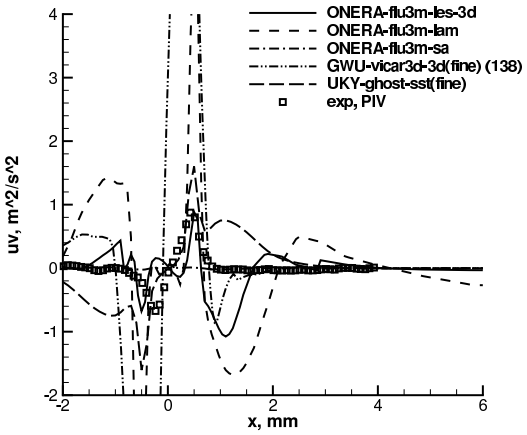


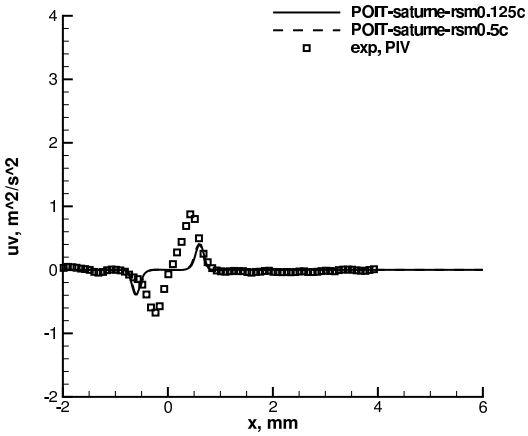
Phase-averaged u'v' turbulent stresses at y=0.1mm, phase=135°:



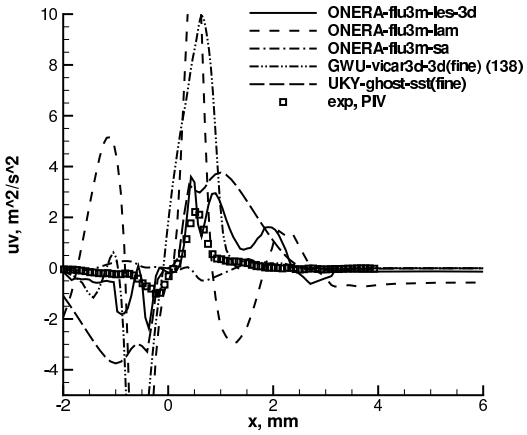


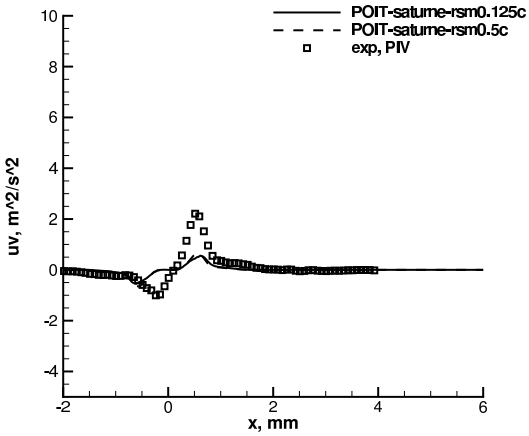
Phase-averaged u'v' turbulent stresses at y=1mm, phase=135°:



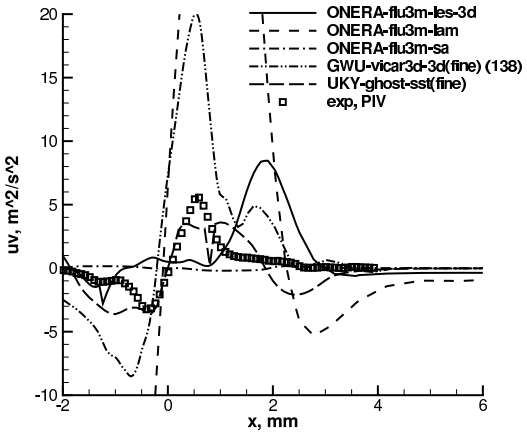


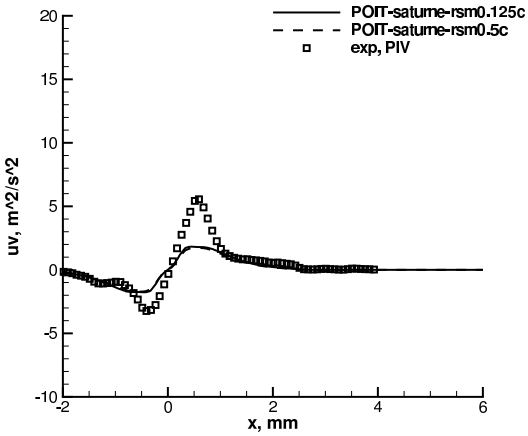
Phase-averaged u'v' turbulent stresses at y=2mm, phase=135°:





Phase-averaged u'v' turbulent stresses at y=4mm, phase=135°:





Phase-averaged u'v' turbulent stresses at y=8mm, phase=135°: