Phase Averaging of an Impinging Jet

Results of the simulation of an impinging jet carried out by Wilke and Sesterhenn were phase averaged.
The impinging jet operates at a Reynolds number of Re = 3.300, the distance between inlet and impingement plate is H=D = 5.
Different methods of phase averaging were examined. The phase averages of the skin friction coeffcient, of the Nusselt number and of the turbulent heat transport near the impingement plate were analyzed. The components of the Reynolds stress tensor were phase averaged and examined.
Correlations between phase fluctuations of different flow variables at different parts of the jet and in the wall jet boundary layer were analyzed as well. A comparison of correlations between phase fluctuations and correlations between normal fluctuations was made.