

## Letter to the Editor

Reply to “Comments on the article ‘Turbulence characteristics in turbine agitated tanks of different sizes and geometries’ by Ivan Fort, Czech Technical University” [CE/1998/002598]

1. The impeller spacings for all investigated reactors are above that given by Hudcova et al. yielding the flow fields from each impeller independent of each other. Note that in our publication  $D$  is the tank diameter and not the turbine diameter. Naturally, the presence of the wall changes the situation for those measurements performed at the bottom turbine as compared to the others, but it is unlikely that there are big influences of that in the impeller stream.
2. The main flow direction naturally is dependent on radial distance. However, in our case, we have not measured very close to the turbine tip nor very close to the wall, so that within reasonable accuracy a  $45^\circ$  is reasonable

approximation within those distances. We do achieve from the measurements the absolute value as well as the angle. Maybe it would have been better to report both.

3. The sampling frequency is in kHz, meaning thereby that the sample sizes are 1000 times greater than those thought by Professor Fort.
4. We have shown in our MS “Measuring and analysis of high intensity turbulent characteristics in a turbine agitated tank”, Ref. [19], soon to appear in *Experiments in Fluids*, that  $\overline{u_2^2}$  is close to  $\overline{u_3^2}$  though not identical.

Dr. Christian Trägårdh\*

*Food Engineering*

*Centre for Chemistry and Chemical Engineering*

*Lund University P.O. Box 124*

*SE-22100 Lund*

*Sweden*