

CFD FTS MM 9.29.08

CFD Flocculation Tank Simulation Meeting Minutes

Fall 2008 Minutes

September 29, 2008

Accomplishments

- Examined the significance of differing values of G_{θ} calculated using different methods. (see below)
- Created mesh with three turns to determine how separation region interacts with the subsequent flow around a baffle.
- Obtained converged solution with three turns at $h=1.5$ width, and 50,000 cells.

Metrics

$G_{ave} * \theta_{ave} = .617$
 $\text{sum}(\theta_{cell}) = 8217 \text{ sec } (\theta_{ave} = 8217 / 30000 \text{ cells})$
 $G_{ave} \text{ in cells} = 2.25$
 $\text{sum}(G_{cell} * \theta_{cell}) = .6698$

$\theta_{system} = 20 \text{ sec}$

$G_{\theta_{max}}$

Outcomes

- The θ values in stagnant/recirculating regions are very large. Thus when examining the sum of the θ values, the value is significantly higher than the V_{tot}/Q .
- Obtained G_{θ} value is order 1, and we need to examine why this value is significantly smaller than expected.

Issues

- G_{θ} values did not correspond with what was expected.
- Difficulty with meshing the boundary layer