A short guide to understand the solver Ehsan Askari, Ph.D.

1. A simple PBM implementation using Number Density Approach. This method is really similar to IATE model in OpenFoam. The idea originates from the following paper:

NDPBM

Class Foam::diameterModels::NDPBM

Description NDPBM (Number Density Approach Population Balance Model) bubble diameter model

"CFD modeling of gas dispersion and bubble size in a double turbine stirred tank"

F. Kerdouss,

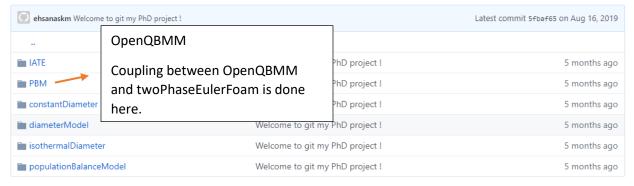
A. Bannari,

P. Proulx,

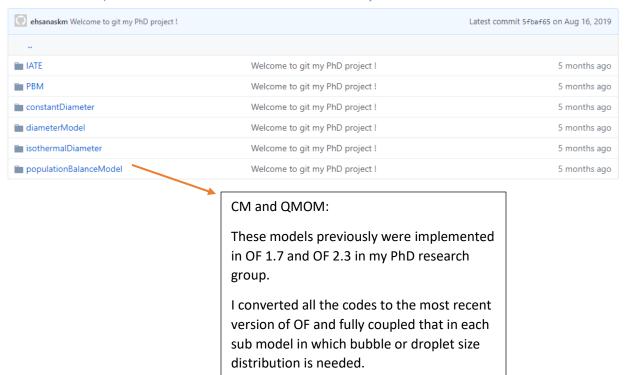
Chemical Engineering Science, Vol.61 December 2006

The overall solver including various PBM models (Class Methods, QMOM and EQMOM (OpenQBMM) with few implemented breakage and coalescence kernels:

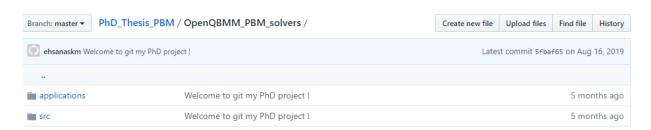
 ${\bf PhD_Thesis_PBM} \ / \ {\bf OpenFOAM_solvers} \ / \ {\bf twoPhaseEulerPBMFoam} \ / \ {\bf twoPhaseSystem} \ / \ {\bf diameterModels} \ / \ {\bf twoPhaseSystem} \ / \ {\bf diameterModels} \ / \ {\bf twoPhaseEulerPBMFoam} \ / \ {\bf twoPhaseSystem} \ / \ {\bf diameterModels} \ / \ {\bf twoPhaseSystem} \ / \ {\bf diameterModels} \ / \ {\bf di$

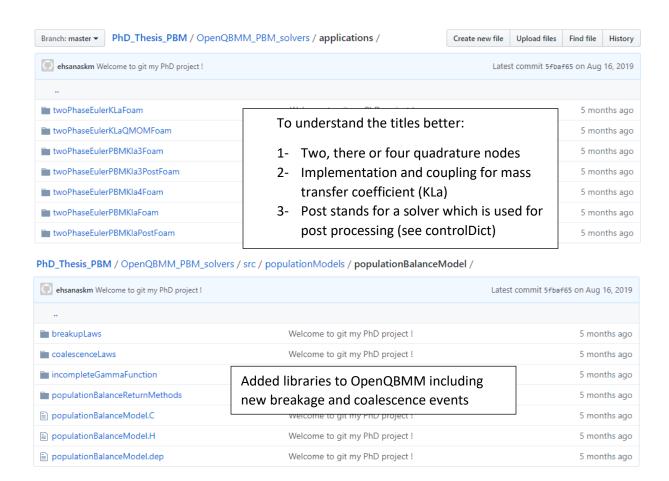


PhD_Thesis_PBM / OpenFOAM_solvers / twoPhaseEulerQMOMFoam / twoPhaseSystem / diameterModels /



3. New solvers and modified libraries in OpenQBMM:





4. The implementation of different mass transfer coefficients in reacting Euler Foam original solver:

PhD_Thesis_PBM / OpenFOAM_solvers / MyreactingEulerFoam / interfacialCompositionModels / massTransferModels /

ehsanaskm Welcome to git my PhD project!		Latest commit 5fbaf65 on Aug 16, 2019
Frossling	Welcome to git my PhD project !	5 months ago
Higbie	Welcome to git my PhD project !	5 months ago
■ HigbiePenetration	Welcome to git my PhD project !	5 months ago
SurfaceRenewal	Welcome to git my PhD project !	5 months ago
massTransferModel	Welcome to git my PhD project !	5 months ago
sphericalMassTransfer	Welcome to git my PhD project !	5 months ago

5. The solvers were applied to Rushton and BioReactor mixers which can be found here:

