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""3.1.2. Governing Equations for Particulate Phase Modeling""; ""3.1.3. Turbulence Modeling for Carrier Phase""; ""3.1.4. Turbulence Modeling for the Dispersed Phase""; ""3.2. Liquid-Air Flows (Micro-bubble)""; ""3.2.1. Inhomogeneous Two-Fluid Model""; ""3.2.1.1. Mass Conservation""; ""3.2.1.2. Momentum Conservation"" ""3.2.1.3. Interfacial Area Density""""3.2.2. MUSIG Model""; ""3.2.2.1. MUSIG Break-up Rate""; ""3.2.2.2. MUSIG Coalescence Rate""; ""Numerical Procedure""; ""Numerical Predictions""; ""Gas Particle Flow""; ""4.1. Code Verification""; ""4.1.1. Mean Streamwise Velocities""; ""4.1.2. Mean Streamwise Fluctuations""; ""4.2. Results and Discussion""; ""4.2.1. Turbulence Modulation (TM)""; ""4.2.1.1. Analysis of Experimental Data""; ""4.2.2. TM & (Particle Number Density) PND Results""; ""4.2.3. Effect of Particle Reynolds Number on TM""; ""Liquid Particle Flow"" ""5.1. Analysis of Experimental Data""""5.2. Numerical Code Validation""; ""5.3. Results and Discussion""; ""5.4.1. Particle Response-Mean Velocity Level""; ""5.4.2. Particle Response-Turbulence Level""; ""5.4.3. Summary of Particulate Responsivity""; ""Air-Liquid Flows""; ""6.1. Results and Discussion""; ""6.1.1. Experimental Validation (Inhomogeneous Model)""; ""6.1.2. Investigation of Mechanisms of Drag Reduction""; ""6.1.3. Turbulence Modulation (TM)""; ""6.1.3. Effect of Bubble Coalescence and Break-up in Drag Reduction""; ""Conclusion""; ""Untitled"" ""A REVIEW OF POPULATION BALANCE MODELLING FOR MULTIPHASE FLOWS: APPROACHES,APPLICATIONS AND FUTURE ASPECTS""
