عنوان مقاله:

A New Moving Boundary Model for Simulation of the Ultrasonic Horn Reactors

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خلاصه مقاله:

In the present work a combined fluid-solid mechanic approach was employed to propose an oscillating parabolic-logarithmic profile for predicting the ultrasonic horn behavior. Afterward a computational fluid dynamic (CFD) model with the modified cavitation model along with the mixture model for turbulent flow (RNG, k-ε) was applied in order to simulate the flow pattern inside the reactor. The particle image velocimetry (PIV) technique was carried out for both analysis and validation of the numerical solution. The velocity field and the vapor volume fraction obtained by CFD was in a reasonably good agreement with the Particle Image Velocimetry (PIV) results

کلمات کلیدی:

Moving boundary, CFD, Ultrasonic horn reactor

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