

Introduction to Bubble Growth and Collapse

Unlike solid particles or liquid droplets, gas/vapor bubbles can grow or collapse in a flow and in doing so manifest a host of phenomena with technological importance. We devote this chapter to the fundamental dynamics of a growing or collapsing bubble in an infinite domain of liquid that is at rest far from the bubble. While the assumption of spherical symmetry is violated in several important processes, it is necessary to first develop this baseline. The dynamics of clouds of bubbles or of bubbly flows are treated in later chapters.