Movie 1

Simulation of a cavitation bubble ($R_{max} \approx 500$ µm) oscillating far from any boundaries with passive particles; the left side shows the bubble gas in red and water in blue, the right side shows the velocity field

Movie 2

Simulation of a cavitation bubble ($R_{max} \approx 500$ µm) at $d = 500$ µm to a rigid wall; the left side shows the bubble gas in red and water in blue, the right side shows the velocity field

Movie 3

Simulation of a cavitation bubble ($R_{max} \approx 475$ µm) at $d = 500$ µm from a rigid perforated plate of thickness $l = 1$ mm and hole radius $r_c = 50$ µm with passive particles; the left side shows the bubble gas in red and water in blue, the right side shows the velocity field

Movie 4

Simulation of a cavitation bubble ($R_{max} \approx 475$ µm) at $d = 500$ µm from a rigid perforated plate of thickness $l = 1$ mm and hole radius $r_c = 25$ µm with passive particles; the left side shows the bubble gas in red and water in blue, the right side shows the velocity field

Movie 5

Simulation of a cavitation bubble ($R_{max} \approx 475$ µm) at $d = 500$ µm from a rigid perforated plate of thickness $l = 1$ mm and hole radius $r_c = 200$ µm with passive particles; the left side shows the bubble gas in red and water in blue, the right side shows the velocity field

Movie 6

Simulation of a cavitation bubble ($R_{max} \approx 475$ µm) at $d = 250$ µm from a rigid perforated plate of thickness $l = 1$ mm and hole radius $r_c = 50$ µm with passive particles; the left side shows the bubble gas in red and water in blue, the right side shows the velocity field

Movie 7

Simulation of a cavitation bubble ($R_{max} \approx 475$ µm) at $d = 100$ µm from a rigid wall with a channel ($l = 1$ mm, $r_c = 50$ µm) with passive particles; the left side shows the bubble gas in red and water in blue, the right side shows the velocity field

Movie 8

Simulation of a cavitation bubble ($R_{max} \approx 475$ µm) at $d = 0$ from a rigid perforated plate of thickness $l = 1$ mm and hole radius $r_c = 50$ µm with passive particles; the left side shows the bubble gas in red and water in blue, the right side shows the velocity field

Movie 9

Simulation of a cavitation bubble ($R_{max} \approx 460$ µm) at $d = 108$ µm from a rigid perforated plate of thickness $l = 170$ µm and hole radius $r_c = 97.5$ µm; bubble gas is shown in orange, an ink map shows the liquid in the upper tank in black, and transitions over red and yellow to grey for the liquid in the lower tank; followed by an high-speed movie of the corresponding experimental case using Schlieren imaging

Movie 10

Simulation of a cavitation bubble ($R_{max} \approx 460$ µm) at $d = 202$ µm from a rigid perforated plate of thickness $l = 170$ µm and hole radius $r_c = 97.5$ µm; bubble gas is shown in orange, an ink map shows the liquid in the upper tank in black, and transitions over red and yellow to grey for the liquid in the lower tank; followed by an high-speed movie of the corresponding experimental case using Schlieren imaging