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Dynamics of bubbles and drops in a Hele-Shaw cell KO OKUMURA, AYAKO ERI, MARIA YOKOTA, Department of Physics, Ochanomizu University — Bubbles created in liquid and drops moving in another immiscible liquid are easy to be observed from the side when enclosed in thin space made by two parallel plates, i.e. in a Hele-Shaw cell, and the results thus obtained should be interesting to be compared with three dimensional counterparts to find dimensional crossover. We show two such experimental examples: (1) thinning dynamics of liquid film encapsulating an air bubble and (2) coalescence dynamics of a liquid drop to the bath phase of the same liquid. Our experimental results are well explained by simple theories, providing the physical understanding of the phenomena.

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