

Captions for the movies associated to the paper

On mass transfer from laminar falling liquid films
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Movie 1. The movie follows in time a single unit of a periodic wave sequence propagating on a liquid film on a vertical plane wall. Color represents the normalized concentration of a dissolved substance which diffuses out of the film surface. This is Case 0 of the paper with a Schmidt number of 1000. The other parameters are: Reynolds number 21.9; Kapitza number 3,376; wavelength normalized by the Nusselt film thickness h_{Nu} 104. The wall-normal scale is magnified by a factor of 15 with respect to the horizontal one. The last frame is about 15 wavelengths from the first one, i.e., at about $x/h_{Nu} = 1560$.

Movie 2. The movie follows in time a single unit of a periodic wave sequence propagating on a liquid film on a vertical plane wall. Color represents the normalized concentration of a dissolved substance which diffuses out of the film surface. This is Case 5 of the paper with a Schmidt number of 1000. The other parameters are: Reynolds number 24.1; Kapitza number 3,376; wavelength normalized by the Nusselt film thickness 201. The wall-normal scale is magnified by a factor of 15 with respect to the horizontal one. The last frame is about 15 wavelengths from the first one, i.e., at about $x/h_{Nu} = 3000$.

Movie 3. The movie follows in time a single unit of a periodic wave sequence propagating on a liquid film on a vertical plane wall. Color represents the normalized concentration of a dissolved substance which diffuses out of the film surface. This is Case 11 of the paper with a Schmidt number of 2000. The other parameters are: Reynolds number 8.63; Kapitza number 1,996; wavelength normalized by the Nusselt film thickness 108. The wall-normal scale is magnified by a factor of 15 with respect to the horizontal one. The last frame is about 15 wavelengths from the first one, i.e., at about $x/h_{Nu} = 1600$.

Movie 4. The movie follows in time two units of a periodic wave sequence propagating on a liquid film on a vertical plane wall. Color represents the normalized concentration of a dissolved substance which diffuses out of the film surface. This is Case 11 of the paper with a Schmidt number of 2000. The other parameters are: Reynolds number 8.63; Kapitza number 1,996; wavelength normalized by the Nusselt film thickness 108. The wall-normal scale is magnified by a factor of 30 with respect to the horizontal one. This movie is for the same case as Movie 3 and helps illustrate the effect of the upstream wave on the downstream one. The last frame is about 5 wavelengths from the first one, i.e., at about $x/h_{Nu} = 540$.