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Faraday waves on time-dependent domains MAHDI GHADIRI, ROUSLAN KRECHETNIKOV, University of Alberta — Faraday wave patterns – standing waves which form on the free fluid surface due to its vertical vibration – have been frequently used as a testbed for new theories and ideas. As part of the recent effort to understand dynamics and evolution on time-dependent spatial domains, in this talk we will present experimental investigation on how Faraday wave patterns respond to the domain deformation. In our experimental setup of a vibrating water container with controlled moving walls, the characteristics of the free surface patterns are measured using the Fourier transform profilometry technique, which allows us to get accurate time history of patterns three-dimensional landscape. Our study reveals, at the experimental level, how patterns transform in response to the domain dynamics on various length- and time-scales.

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