

PROPAGATION OF SINGULARITIES FOR GRAVITY-CAPILLARY WATER WAVES

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By physical intuition, the surface tension instantaneously smooths the free surface of fluid. This phenomenon has been mathematically justified by Christianson–Hur–Staffilani and Alazard–Burq–Zuily in the form of *local* smoothing effects for 2D gravity-capillary water waves. In this talk, I will present a *microlocal* justification of this phenomenon by studying the propagation of quasi-homogeneous wavefront sets for gravity-capillary water waves in arbitrary dimension.