USING STATISTICAL DYNAMICS TO EXPLAIN FEATURES OF ANOMALOUS STATISTICS IN SHALLOW WATER WAVES WITH ABRUPT DEPTH CHANGES (PROJECT READING LIST)

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I): Experiments

Ref.: C. Tyler Bolles, Kevin Speer, M. N. J. Moore, *Anomalous statistics of unidirectional surface waves induced by abrupt depth change*, 2018.

II): (Model for I) Initial KdV + Scattered KdV after abrupt depth change

Ref.: R. S. Johnson, *A Modern Introduction to the Mathematical Theory of Water Waves,* Cambridge Texts in Applied Mathematics, 1997 (Read pages 268–277, Chapter 3).

III): Statistical Dynamics Model for I) based on II)

i) Majda and Wang, *Nonlinear dynamics and statistical theories for basic geophysical flows*, Cambridge University Press, 2006 (Read Chapter 6).

ii) Abramov, Kovacic, and Majda, *Hamiltonian Structure and Statistically Relevant Conserved Quantities for the Truncated Burgers-Hopf Equation*, CPAM, 2003.

iii) Bajars, Frank, and Leimkuhler, *Weakly coupled heat bath models for Gibbs-like invariant states in nonlinear wave equations*, Nonlinearity, 2013 (Read pages 1948–1952 and 1956–1957 (Figure 1)).