Abstract Submitted for the DFD05 Meeting of The American Physical Society

Enhanced Faraday pattern stability with three-frequency driving YU DING, PAUL UMBANHOWAR, Northwestern University — We report experimental measurements of enhanced stability of 12-fold quasi-patterns and type-I super-lattice patterns with the addition of a third driving frequency. With twofrequency driving in the ratios 4:5 and 6:7, 12-fold quasi-patterns and type-I superlattice patterns are observed respectively for a range of relative phases and amplitudes. Addition of a third frequency at twice the difference frequency, i.e. 4:5:2 and 6:7:2, shifts the region of pattern stability closer to onset. Our results are in qualitative agreement with a recent theoretical analysis based on three wave resonance.

> Yu Ding Northwestern University

Date submitted: 04 Aug 2005

Electronic form version 1.4