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# Periodic Travelling Waves in Dimer Granular Chains

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*(Submitted on 17 Apr 2012)*

We study bifurcations of periodic travelling waves in granular dimer chains from the anti-continuum limit, when the mass ratio between the light and heavy beads is zero. We show that every limiting periodic wave is uniquely continued with respect to the mass ratio parameter and the periodic waves with the wavelength larger than a certain critical value are spectrally stable. Numerical computations are developed to study how this solution family is continued to the limit of equal mass ratio between the beads, where periodic travelling waves of granular monomer chains exist.

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| Subjects: | **Pattern Formation and Solitons (nlin.PS)** |
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