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Vibrations in materials with granularity

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PUBLICATIONS

1. Z. Zeravcic, W. van Saarloos and D. R. Nelson, *Localization Behavior of Vibrational Modes in Granular Packings*, Euro. Phys. Lett. **83**, 44001 (2008) [Chapter 3].
2. Z. Zeravcic, N. Xu, A. J. Liu, S. R. Nagel and W. van Saarloos, *Excitations of Ellipsoid Packings near Jamming*, Euro. Phys. Lett. **87**, 26001 (2009) [Chapter 2].
3. W. Ellenbroek, Z. Zeravcic, M. van Hecke and W. van Saarloos, *Non-affine Response: Jammed Packings versus Spring Networks*, Euro. Phys. Lett. **87**, 34004 (2009).
4. Z. Zeravcic, D. Lohse and W. van Saarloos, *Collective oscillations in bubble clouds*, to be submitted to JFM (2010) [Chapter 4].
5. Z. Zeravcic, N. Xu, A. J. Liu, S. R. Nagel and W. van Saarloos, *Response and Vibrations of Ellipsoid Packings*, in preparation (2010) [part of Chapter 2].

CURRICULUM VITAE

I was born on the 6th of May, 1982 in Belgrade, Yugoslavia (now Serbia). I finished the Third Belgrade Gymnasium in May 2001. In the following October I started my studies at the Faculty of Physics, University of Belgrade. In July 2006 I defended my diploma degree thesis titled “*Shape of the Milky Way dark halo from the 511keV line*”. This work was done under supervision of Prof. dr. Ivan Aničin. At the start of the following academic year, September 2006, as a PhD student I joined the group of Prof. Dr. Ir. Wim van Saarloos at the Lorentz Institute for Theoretical Physics in Leiden. The main result of the work I did during the last four years is presented in this thesis.

During my PhD I was a teaching assistant for a course in Computational Physics (spring semester 2009 and 2010) and Statistical Physics *II* (fall semester 2009). In the course of my studies I attended several workshops and conferences, and gave talks or presented posters about my work at meetings in the Netherlands, Italy, France, England and United States. In 2008 I spent 3 months (June-August) at University of Chicago, in the group of Prof. Dr. Sidney Nagel.

As of fall 2010, I will be employed as a postdoc at the School of Engineering and Applied Sciences, Harvard University, in the group of Prof. Dr. Michael Brenner.

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Over the past four years I grew up in some sense, shaping as a scientist. The way I turned out is due to Wim, Martin and Sid. There is no luckier PhD student than me, that had a great honor, privilege and fortune to be influenced by you!

In the end I would like to say that this thesis would not have been possible without the constant support and love from my family: mom, sis and Andrej. I hope you know how much you mean to me!

