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List of publications

Refereed journals

1. M. Karsai, M. Kivelä, R. K. Pan, K. Kaski, J. Kertész, A.-L. Barabási, and J. Saramäki, *Small but slow world: how network topology and burstiness slow down spreading*, Phys. Rev. E., in press (2011)
2. A. Lancichinetti, M. Kivelä, J. Saramäki, and S. Fortunato, *Characterizing the community structure of complex networks*, PLoS One, **5**(8), e11976 (2010)
3. L. Kovanen, J. Saramäki, and K. Kaski, *Reciprocity of Mobile Phone Calls*, Dynamics of Socio-Economic Systems, in press (2010)
4. R. Toivonen, L. Kovanen, M. Kivelä, J.-P. Onnela, J. Saramäki, and K. Kaski, *A comparative study of stochastic algorithmic models for social networks*, Social Networks **41**, 240 (2009)
5. R. Lambiotte, J. Saramäki, and V.D. Blondel, *Dynamics of latent voters*, Phys. Rev. E **79**, 046107 (2009)
6. J.M. Kumpula, J.-P. Onnela, J. Saramäki, J. Kertész, and K. Kaski, *Model of community emergence in weighted networks*, Comp. Phys. Comm. **180**, 517 (2009)
7. T. Heimo, K. Kaski, and J. Saramäki, *Maximal spanning trees, asset graphs and random matrix denoising in the analysis of dynamics of financial networks*, Physica A **388**, 145 (2009)
8. R. Toivonen, X. Castelló, V. M. Eguíluz, J. Saramäki, K. Kaski, and M. San Miguel, *Broad lifetime distributions for ordering dynamics in complex networks*, Phys. Rev. E **79**, 016109 (2009)
9. J.M. Kumpula, M. Kivelä, K. Kaski, and J. Saramäki, *A sequential algorithm for fast clique percolation*, Phys. Rev. E **79**, 026109 (2008)
10. T. Heimo, J. Kumpula, K. Kaski, and J. Saramäki, *Detecting modules in dense weighted networks with the Potts method*, J. Stat. Mech. P08007 (2008)
11. K. Battacharya, G. Mukherjee, J. Saramäki, K. Kaski, and S.S. Manna, *The International Trade Network: weighted network analysis and modelling*, J. Stat. Mech. P02002 (2008)
12. J. Hyvönen, J. Saramäki, and K. Kaski, *Efficient data structures for sparse network presentation*, Int. J. Comp. Math. **85**, 1219 (2008)
13. T. Heimo, G. Tibély, J. Saramäki, K. Kaski, and J. Kertész, *Spectral methods and cluster structure in correlation-based networks*, Physica A **386**, 5930 (2008)
14. J.M. Kumpula, J.-P. Onnela, J. Saramäki, K. Kaski, and J. Kertész, *Emergence of communities in weighted complex networks*, Phys. Rev. Lett. **99**, 228701 (2007)
15. X. Castelló, R. Toivonen, V.M. Eguíluz, J. Saramäki, K. Kaski, and M. San Miguel, *Anomalous lifetime distributions and topological traps in ordering dynamics*, Europhys. Lett. **79**, 66006 (2007)
16. J.M. Kumpula, J. Saramäki, K. Kaski, and J. Kertész, *Limited resolution and multiresolution methods in complex network community detection*, Fluctuation and Noise Letters **7**, L209 (2007)
17. S. Sinha, J. Saramäki, and K. Kaski, *Emergence of self-sustained patterns in small-world excitable media*, Phys. Rev. E. **76**, 015101(R) (2007)
18. J.-P. Onnela, J. Saramäki, J. Hyvönen, G. Szabó, M. Argollo de Menezes, K. Kaski, A.-L. Barabási, and J. Kertész, *Analysis of a large-scale weighted network of one-to-one human communications*, New J. Phys. **9**, 179 (2007)
19. J.-P. Onnela, J. Saramäki, J. Hyvönen, G. Szabó, D. Lazer, K. Kaski, J. Kertész, and A.-L. Barabási, *Structure and tie strengths in mobile communication networks*, Proc. Natl. Acad. Sci. (USA) **104**, 7332 (2007)
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21. J. Kumpula, J. Saramäki, K. Kaski and J. Kertész, *Limited resolution in complex network community detection with Potts model approach*, Eur. Phys. J. B **56**, 41 (2007)
22. J. Saramäki, M. Kivelä, J.-P. Onnela, K. Kaski and J. Kertész, *Generalizations of the clustering coefficient to weighted complex networks*, Phys. Rev. E **75**, 027105 (2007)

23. R. Toivonen, J.-P. Onnela, J. Saramäki, J. Hyvönen, and K. Kaski, *A model for social networks*, Physica A **371**, 851 (2006)
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26. J.-P. Onnela, J. Saramäki, J. Kertész, and K. Kaski, *Intensity and coherence of motifs in weighted complex networks*, Phys. Rev. E **71**, 065103(R) (2005)
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31. V. Tsepelin, J.P. Saramäki, A.V. Babkin, P.J. Hakonen, J.J. Hyvönen, R.M. Luusalo, A.Ya. Parshin, and G.K. Tvalashvili, *Elementary steps on the 4-He crystal interface probed by 3-He atoms*, Phys. Rev. Lett. **83**, 4804 (1999).
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34. J.P. Ruutu, P.J. Hakonen, A.V. Babkin, A.Ya. Parshin, J.S. Penttilä, J.P. Saramäki, and G. Tvalashvili, *Facet growth of 4-He crystals at mK temperatures*, Phys. Rev. Lett. **76**, 4187 (1996).
35. H. Alles, A.V. Babkin, P.J. Hakonen, J.P. Ruutu, J.T. Salojärvi, and J.P. Saramäki, *Spreading of superfluid 4-He on MgF₂*, J. Low Temp. Phys. **102**, 21 (1996)
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38. H. Alles, A.V. Babkin, P.J. Hakonen, J.P. Ruutu, and J.P. Saramäki, *Dimples due to dislocations at the superfluid/solid interface of 4-He*, J. Low Temp. Phys. **101**, 519 (1995).

Conference proceedings

1. X. Castelló, V.M. Eguíluz, M. San Miguel, L. Loureiro-Porto, R. Toivonen, J. Saramäki, and K. Kaski, *Modelling language competition: bilingualism and complex social networks*, in: A.D.M. Smith, K. Smith, R. Ferrer-Cancho (eds.), The evolution of language - Proceedings of the 7th International Conference (EVOLANG7), Barcelona 2008. World Scientific Publishing Co. (2008)
2. J.M. Kumpula, J. Saramäki, K. Kaski, and J. Kertész, *Limited resolution and multiresolution methods in complex networks community detection*, in: J. Kertész et al (eds.), Proceedings of SPIE: Noise and Stochastics in Complex Systems and Finance, Proc. of SPIE **6601**, 660116 (2007)
3. R. Toivonen, J.M. Kumpula, J. Saramäki, and K. Kaski, *The role of edge weights in social networks: modelling and dynamics*, in J. Kertész et al (eds.), Proceedings of SPIE: Noise and Stochastics in Complex Systems and Finance, Proc. of SPIE **6601**, 660110 (2007)
4. J.-P. Onnela, J. Saramäki, K. Kaski, and J. Kertész, *Financial Market - a Network Perspective*, in: H. Takayasu (ed.), Practical Fruits of Econophysics, Proceedings of the 3rd Nikkei Econophysics Symposium, 302, Springer, Tokyo (2006)
5. K. Kaski and J. Saramäki, *Modeling Epidemics with Dynamic Small-World Networks*, in: J.F.F. Mendes et al (eds.), AIP Conference Proceedings **776** - Science of Complex Networks, 252 (2005).
6. J. Saramäki, *A Method for Decentralized Optimisation in Networks*, in: J.F.F. Mendes et al (eds.), AIP Conference Proceedings **776** - Science of Complex Networks, 215 (2005).
7. J. Saramäki, J.-P. Onnela, J. Kertész, and K. Kaski, *Characterizing Motifs in Weighted Complex Networks*, in: J.F.F. Mendes et al (eds.), AIP Conference Proceedings **776** - Science of Complex Networks, 108 (2005).
8. P. Hakonen, A. Babkin, A. Parshin, J. Ruutu, J. Saramäki, and G. Tvalashvili, *Interferometric studies of interfaces at milliKelvin temperatures*, Czech. J. Phys. **46** Suppl. S6, 2965 (1996)
9. G. Tvalashvili, A. Babkin, P. Hakonen, J. Ruutu, and J. Saramäki, *Investigations on 3-He crystals using optical interferometry at mK temperatures*, Czech. J. Phys. **46** Suppl. S1, 479 (1996)

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11. P. Hakonen, A. Parshin, J. Ruutu, A. Babkin, J. Penttilä, J. Saramäki, and G. Tvalashvili, *Spiral growth of c-facets in 4-He crystals at mK-temperatures*, Czech. J. Phys. **46** Suppl. S1, 469 (1996)
12. J. Saramäki, H. Alles, A. Babkin, P. Hakonen, J. Ruutu, and J. Salojärvi, *Spreading of superfluid 4-He on MgF2*, Czech. J. Phys. **46** Suppl. S1, 429 (1996)
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Submitted Manuscripts

1. R. K. Pan and J. Saramäki, Path lengths, correlations, and centrality in temporal networks, arXiv:1101.5913, submitted (2011)
2. R. K. Pan, M. Kivelä, J. Saramäki, K. Kaski, J. Kertész, Explosive percolation on real-world networks, arXiv:1010.3171, submitted (2010)
3. G. Tibély, M. Karsai, L. Kovanen, K. Kaski, J. Kertész, and J. Saramäki, Communities and beyond: mesoscopic analysis of a large social network with complementary methods, arXiv:1006.0418, submitted (2010)
4. R. Toivonen, M. Kivelä, J. Saramäki, M. Viinikainen, M. Vanhatalo, and M. Sams, Networks of Emotion Concepts, submitted (2010)

Popular Science

1. J. Saramäki, J.-P. Onnela, K. Kaski: *Kompleksisten verkostojen fysiikkaa* (The Physics of Complex Networks), Arkhimedes 01/2007.
2. M. Lassas, R. Lehtinen, J. Saramäki, S. Siltanen: *Kuka tarvitsee matematiikkaa? (Who should know maths?)*, The Finnish Academies of Technology, Espoo (1997)