Publications Marcel den Nijs (last update June 2010)

M.P.M. den Nijs, A.M.M. Pruisken, and J.M.J. van Leeuwen, *Critical Phenomena for a Triangular Spin Lattice, I; Triplet Interactions*, Physica 84 A (1976) 539-556.

The. Burkhardt, H.J.F. Knops, and M. den Nijs, *Renormalization-group Results for the 3-state Potts Model*, J. Phys. A 9 (1976) L179-181.

M.P.M. den Nijs and H.J.F. Knops, *Variational Renormalization for the Potts model*, Physica 93 A (1978) 441-156.

M.P.M. den Nijs, *The Kadanoff Lower Bound Renormalization Transformation for the q-state Potts Model*, Physica 95 A (1979) 449-472.

M.P.M. den Nijs, *A Relation between the Temperature Exponents of the Eight-Vertex and q-state Potts Model*, J. Phys. A 12 (1979) 1857-1868.

M.P.M. den Nijs, *A Renormalization Study of the q-state Potts Model*, Ph.D. thesis, Nijmegen, The Netherlands, December 1979.

M.P.M. den Nijs, *A Derivation of Extended Scaling Relations between Critical Exponents in Two-Dimensional models from the One-Dimensional Luttinger Model*, Phys. Rev. B 23 (1981) 6111-6125.

Mahito Kohmoto, Marcel den Nijs, and Leo P. Kadanoff, *Hamiltonian Studies of the d=2 Ashkin-Teller Model*, Phys. Rev. B 24 (1981) 5229-5241.

Marcel den Nijs, The Critical Exponent η of the Planar Model from One-Dimensional Quantum Field Theory, Physica 111A (1982) 273-287.

M.P.M. den Nijs, M.P. Nightingale and M. Schick,

A Critical Fan in the Antiferromagnetic three-state Potts Model, Phys. Rev. B 26 (1982) 2490-2500.

D.J. Thouless, M. Kohmoto, M.P. Nightingale, and M. den Nijs, *Quantized Hall Conductance in a Two-dimensional Periodic Potential*, Phys. Rev. Lett 49 (1982) 405-408.

Steven Howes, Leo P. Kadanoff, and Marcel den Nijs, *Quantum Model for Commensurate-Incommensurate Transitions*, Nucl. Phys. B 215 (1983) 169-208.

Marcel den Nijs, *Extended Scaling Relations for the Magnetic Exponents of the Potts Model*, Phys. Rev. B 27 (1983) 1674-1679.

J.L. Cardy, M.P.M. den Nijs, and M. Schick, *Transitions of an Internal Degree of Freedom within an Incommensurate Phase*, Phys. Rev. B 27 (1983) 4251-4255.

Marcel den Nijs, *Quantized Hall Conductance in a Two Dimensional Periodic Potential*, Physica 124A (1984) 199-210.

Marcel den Nijs, *Extended Scaling Relations for the Chiral and Cubic Exponents of the Potts Model*, J. Phys. A 17 (1984) L295-300.

Marcel den Nijs, *String Melting of the Floating Phase in Antiferromagnetic Clock Models*, Phys. Rev. B 31 (1985) 266-275.

Marcel den Nijs, *Corrections to Scaling and Self-Duality in the Restricted Solid-on-Solid Model*, J. Phys. A 18 (1985) L549-556.

Marcel den Nijs, *The Antiferromagnetic Restricted Solid-on-Solid Model: Ising Models on Stepped Surfaces*, Phys. Rev. B 32 (1985) 4785-4788.

Marcel den Nijs, Eberhard K. Riedel, E.H. Conrad, and T. Engel, *Roughening of Stepped Metal Surfaces*, Phys. Rev. Lett. 55 (1985) 1689-1692, ibid. 57 (1986) 1279.

Edward.H. Conrad, Ralph.M. Aten, Donald.S. Kaufman, Lynn.R. Allen, Thomas Engel, Marcel den Nijs, and Eberhard.K. Riedel, *Observation of Surface Roughening on Ni (115)*, J. Chem. Phys. 84 (1986) 1015-1028, ibid. 85 (1986) 4756.

T.T. Truong and Marcel den Nijs, *Exact Solubility of the Self-Dual and the String Melting Points in the Restricted Solid-on-Solid Model*, J. Phys. A 19 (1986) L645-650.

Hyunggyu Park, Eberhard K. Riedel, and Marcel den Nijs, *Anisotropic Honeycomb Domain Wall Networks in Uniaxial Systems* Ann. Phys. 172 (1986) 419-450.

Koos Rommelse and Marcel den Nijs, *Preroughening Transitions in Surfaces*, Phys. Rev. Lett. 59 (1987) 2578-2581.

Marcel den Nijs, *The Domain Wall Theory of Two-Dimensional Commensurate-Incommensurate Phase Transitions*, in *Phase Transitions and Critical Phenomena* Vol. 12, Domb and Lebowitz editors (Academic Press,1988), 220-333.

Henk W. Blöte and Marcel P.M. den Nijs, *Corrections to Scaling at Two-Dimensional Ising Transitions*, Phys. Rev. B 37 (1988) 1766-1778.

Hyunggyu Park and Marcel den Nijs, *Universal Finite Size Scaling Amplitudes of the Potts Model on a Torus*, Phys. Rev. B 38 (1988) 565-579.

Hyunggyu Park and Marcel den Nijs, *Universal Finite-Size Scaling Amplitudes of Interfacial Free Energies in Monte Carlo Simulations*, J. Phys. A 22 (1989) 3663-3671.

Koos Rommelse and Marcel den Nijs, *Preroughening Transitions in Crystal Surfaces and Valence Bond States in Quantum Spin Chains*, Phys. Rev. B 40 (1989) 4709-4734.

Marcel den Nijs, *Preroughening of Crystal Surfaces and Energy Differences between Inside and Outside Corners* , Phys. Rev. Lett. 64 (1990) 435-438.

Marcel den Nijs, *Interplay between Surface Roughening, Preroughening, and Reconstruction*, in the Proceedings of the Nato Advanced Study Institute on *Phase Transitions in Surface Films*, Sicily, June 1990, edited by H. Taub *et al.* (Plenum, NY, 1991), 247-267.

Marcel den Nijs, *Roughening Induced Deconstruction in (110) Facets of FCC crystals*, Phys. Rev. Lett. 66 (1991) 907-910.

Marcel den Nijs, *Competition between Surface Roughening and Deconstruction in (110)facets of FCC Crystals*, Phys.Rev. B 46, (1992) 10386-10410.

Marcel den Nijs, *Roughening, Preroughening, and Reconstruction Transitions in Crystal Surfaces*, chapter 4 in *The Chemical Physics of Solid Surfaces and Heterogeneous Catalysis, Vol.7* edited by D. King, Elsevier (Amsterdam, 1994).

John Neergaard and Marcel den Nijs, *Crossover Scaling Functions in One Dimensional Dynamic Growth Models*, Phys. Rev. Lett. 74 (1995) 730-733.

Marcel den Nijs, *Preroughening Induced Deconstruction in Si and Ge (001) Type Surfaces*, J. Phys. A. 30, 397-404 (1997).

Douglas Davidson and Marcel den Nijs, *Roughening Induced Deconstruction in (100) Facets of CsCl Type Crystals*, Phys. Rev. E. 55,1331 (1997).

Marcel den Nijs and John Neergaard, *Stationary State Skewness in KPZ Type Growth*, Journ. Phys. A 30, 1935-1952 (1997).

Jae Dong Noh and Marcel den Nijs, *Preroughening transitions in a model for Si(001)- and Ge(001)-type crystal surfaces* J. Phys. A. 30, 7375-7384 (1997).

Per Fröjdh and Marcel den Nijs, *The Crossover from Isotropic to Directed Percolation in 2 Dimensions*, Phys. Rev. Lett. 78, 1850 (1997).

Marcel den Nijs, *Is There a z-Theorem for Dynamic Critical Exponents?*, in the *Proceedings of the 4th CTP Workshop on Statistical Physics*, eds. D. Kim, H. Park, and B. Kahng, pages 272-292 (World Scientific, 1997).

Marcel den Nijs, *Real-space Renormalization from a Geometric Fractal Perspective*, Physica A, 251, 52-69 (1998).

R.F.P. Grimbergen, H. Meekes, P. Bennema, H.J.F. Knops, and M. den Nijs, *Preroughening in Organic Crystals*, Phys. Rev. B 58 , 5258-5265 (1998).

Jae Dong Noh, Hyunggyu Park, and Marcel den Nijs, *Directed Ising type dynamic preroughening transition in one dimensional interfaces* Phys. Rev. E 59, 194-204 (1999).

Chen-Shan Chin and Marcel den Nijs, *Stationary State Skewness in Two Dimensional KPZ Type Growth*, Phys. Rev. E 59, 2633-2641 (1999).

Douglas Davidson and Marcel den Nijs, Fall 1998, *Temperature Dependence of Facet Ridges in Crystal Surfaces*, Phys. Rev. E 59, 5029 (1999).

Chun-Chung Chen, Hyunggyu Park, and Marcel den Nijs, *Active Width at a Slanted Active Boundary in Directed Percolation*, Phys. Rev. E 60, 2496 (1999).

Meesoon Ha, Hyunggyu Park, and Marcel den Nijs, *Particle Dynamics in a Mass-Conserving Coalescence Process*, J. Phys. A: 32, L495-L502 (1999).

Douglas Davidson and Marcel den Nijs, *Facet Ridge End Points in Crystal Shapes*, Phys. Rev. Lett. 84, 326-329 (2000).

Jae Dong Noh, Hyunggyu Park, and Marcel den Nijs, *Anomalous Roughness in Dimer-type Surface Growth*, Phys. Rev. Lett. 84, 3891-3894 (2000).

Marcel den Nijs, *Growth in Scale Invariance*, APCTP Bulletin, **3**, 18-23 (2000).

Jae Dong Noh, Hyunggyu Park, Doochul Kim, and Marcel den Nijs, *Anomalous Roughness, Localization, and Globally Constrained Random Walks*, Phys. Rev. E **64**, 046131-14 (2001).

Chen-Shan Chin and Marcel den Nijs, *Reconstructed Rough Growing Interfaces; Ridgeline Trapping of Domain Walls*, Phys. Rev. E 64, 031606-8 (2001).

Two dimensional Surface Roughness for dissociative Dimer Dynamics, Deoksun Lee and Marcel den Nijs, Phys. Rev. E 65, 26104-9 (2002).

Chun-Chung Chen, and Marcel den Nijs, *An Interface View of Directed Sandpile Dynamics*, Phys. Rev. E 65, 031309-4 (2002).

Chun-Chung Chen, and Marcel den Nijs, *Directed avalanche processes with underlying interface dynamics*, Phys. Rev. E 66, 011306-12 (2002).

Meesoon Ha and Marcel den Nijs, *Macroscopic Car Condensation in a Parking Garage*, Phys. Rev. E 66, 036118 (2002).

Meesoon Ha, Jussi Timonen, and Marcel den Nijs, *Queuing Transitions in the Asymmetric Simple Exclusion Process*, Phys. Rev. E, 68 056122 (2003)

M. Myllys, J. Maunuksela, J. Merikoski, J. Timonen, M. Ha, and M. den Nijs, *Effect of a columnar defect on the shape of slow-combustion fronts*, Phys. Rev. E, 68 051103 (2003)

Kai Miller, Scott Makeig, Adam O. Hebb, Rajesh Rao, Marcel den Nijs, Jeffrey Ojemann *Location on Cortex; (LOC) package for MATLAB*, Journal of Neuroscience Methods 162 303-308 (2007).

Meesoon Ha, Hyunggyu Park, and Marcel den Nijs, *Dynamic instability transitions in one-dimensional driven diffusive flow with nonlocal hopping*, Phys. Rev. E 75, 061131 (2007)

Kai J. Miller, Marcel den Nijs, Pradeep Shenoy, John W. Miller, Rajesh P. N. Rao, Jeffrey G., *Real-time Functional Brain Mapping using Electrocorticography*, NeuroImage 37 (2007) 504-507 doi: 10.1016/j.neuroimage.2007.05.029.

Miller K.J., Hebb A.O., Ojemann J.G., Rao R.P.N, den Nijs M, *Task-Related Principal Component Analysis: Formalism and Illustration*, Conf Proc IEEE Eng Med Biol Soc. 2007; 2007:5469-72.

Kyung Kim and Marcel den Nijs, *Dynamic Screening in a Two-Species Asymmetric Exclusion Process*, Phys. Rev. E 76, 021107 (2007).

Miller, K.J.; Shenoy, P,; den Nijs, M; Sorensen, L.B.; Rao, R.P.N., Ojemann, J.G., *Beyond the Gamma Band: The Role of High Frequency Features in Movement Classification*, IEEE 55 (2008), 0118-92994.

Aurelia R. Honerkamp-Smith, Pietro Cicuta, Marcus D. Collins, Sarah L. Veatch, Marcel den Nijs, M. Schick, and Sarah L. Keller, *Line tensions, correlation lengths, and critical exponents in lipid membranes near critical points*, Biophys J BioFAST, April 18, 2008, as doi:10.1529/biophysj.107.128421

Miller K.J., Shenoy P, den Nijs, M, Sorensen L.B.,Rao R.P.N., Ojemann J.G., *Beyond the Gamma Band: The Role of High Frequency Features in Movement Classification*, IEEE 55 (2008), 0118-92994.

Miller KJ, Blakely T, Schalk G, den Nijs M, Rao RP, Ojemann JG, *Three cases of feature correlation in an electrocorticographic BCI.*, Conf Proc IEEE Eng Med Biol Soc. 2008; 2008:5318-21.

K. J. Miller, S. Zanos, E. E. Fetz, M. den Nijs, and J. G. Ojemann, *Decoupling the cortical power spectrum reveals real-time representation of individual finger movements in humans*, Journal of Neuroscience, March 11, 2009 29(10):31323137.

K.J. Miller, L.B. Sorensen, J.G. Ojemann, and M. den Nijs *Power-Law Scaling in the Brain Surface Electric Potential*, PLOS Computational Biology (2009), 5(12): e1000609.

Miller KJ, Hermes D, Schalk G, Ramsey NF, Jagadeesh B, den Nijs M, Ojemann JG, Rao RP.N, *Detection of spontaneous class-specific visual stimuli with high temporal accuracy in human electrocorticography.* IEEE Eng Med Biol Soc 2009, 6465-6468.

Miller K.J., Schalk G.S., Fetz E.E., den Nijs M., Ojemann J.G., Rao R.P.N., *Cortical Activity During Motor Movement, Motor Imagery, and Imagery-Based Online Feedback*, PNAS (2010) 107(9) 4430-4435.