2+1 KPZ Class: Universal Distributions & Correlators

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We review, briefly, some recent numerical, experimental, and theoretical work done w/ collaborators on the 2+1 Kardar-Parisi-Zhang problem. The focus is on higher dimensional analogs of the universal limit distributions, TW-GUE & TW-GOE, discussed by Herbert Spohn in his inaugural Chandrasekhar Lecture on random matrices & nonequilibrium interfacial growth. The talk also ties into others here on KPZ/ASEP-related matters; e.g., Van Beijeren, Sasamoto, Mallick, Kulkarni, Jain, etc., and touches base with previous beautiful works of Majumdar, Schehr, Rosso, Schutz.

1. THH, PRL **109**, 170602 (2012); PRE **88**, 042118 (2013).
2. T. Kloss, et al., PRE **86**, 051124 (2012); ibid, **88**, 069903 (2013).
3. THH/Y. Lin, PRE **89**, 010103 (2014).
4. THH/G. Palasantzas, EPL **105**, 50001(2014).
5. THH/K. Takeuchi, JSP **160**, 794 (2015); for 1+1 KPZ mathematical developments, see J. Quastel & H. Spohn, JSP **160**, 965 (2015). These 2 papers are part of the special August 2015 JSP issue devoted to "The KPZ Equation in Statistical Mechanics."