Bijecting the BKT transition

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The 2D XY model has attracted attention of physicists and mathematicians for several decades. One way to understand this model is through its dual height function. Recent developments make it possible to show that the phase transitions of the two models coincide. The talk will highlight several connections between the two models and is based on arXiv:2301.06905 (Bijecting the BKT transition) and arXiv:2211.14365 (A dichotomy theory for height functions).