

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Characterization of the full base pairing probability distribution in RNA secondary structure folding¹ WILLIAM BAEZ, Ohio State University, KAY WIESE, CNRS-LPTENS, RALF BUNDSCHUH, Ohio State University — Below the denaturation temperature of RNA, its secondary structures can exist in one of two phases: a strongly disordered, low-temperature glass phase and a weakly disordered, high-temperature molten phase. The probability of two bases pairing in these phases have been shown to scale with the distance between the two bases as $-3/2$ and $-4/3$ in the molten and glass phases, respectively. In this study, we characterize the full probability distributions of pair binding both near and far from the critical point rather than just the behavior of their means studied before. We anticipate that this approach allows one to more closely probe the nature of the phase transition and better measure the system's critical exponents close to and at its critical point.

¹This material is based upon work supported by the National Science Foundation under Grants No. DMR-01105458 and DMR-01410172.

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Date submitted: 06 Nov 2015

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