

Abstract Submitted  
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**Indicators of Conformal Field Theory: entanglement entropy and multiple point correlators**<sup>1</sup> PRANAY PATIL, Boston Univ, YING TANG, Bloomberg L.P., EMANUEL KATZ, ANDERS SANDVIK, Boston Univ — Entanglement entropy (EE) behavior is used as an indicator for conformal field theory (CFT) in many cases. Here we find that it is not a reliable way to assess the existence of a conformal description as EE may show the same behavior even in the absence of a CFT. We use constraints on correlation functions given by the CFT to show that even though the EE shows the right behavior, the CFT is missing in the case of the Amplitude Product State in 1D at criticality. We also explore the CFT on the critical JQ2 chain in more detail using the behavior of two point and three point correlation functions.

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