

Abstract Submitted
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Loop Algorithm for the SU(N) Heisenberg Model NAOKI KAWASHIMA, ISSP, University of Tokyo — The SU(N) generalization of the Heisenberg model is studied with a new loop algorithms with non-binary loop variables.[1] The split-spin representation is used for high-dimensional representations. While we have confirmed our previous result[3] that the ground state switches from the Neel state to the VBS state around $N=5$ for the fundamental representation, we also find that there is an apparent U(1) symmetry in the VBS state. For higher representation, we have not observed any VBS state, although the disappearance of the Neel order parameter has been detected as we increase N.

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