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Topological defects in quantum spin-nematics YUTAKA AKAGI, HIROAKI T. UEDA, NIC SHANNON, Okinawa Institute of Science and Technology — Topological defects play an important role in the theory of nematic phases in liquid crystals. However, relatively little is known about their role in quantum spin nematic phases which have no long-range dipole order and break only spin-rotational symmetry [1-3]. Here, we consider the topological defects in these nontrivial states. The model is the spin-1 bilinear biquadratic model on the triangular lattice [4-6]. We classify the defects by homotopy theory and numerical optimization approach, simulated annealing. We also discuss new type defects at particular point, which has global SU(3) symmetry.

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Yutaka Akagi
Okinawa Institute of Science and Technology

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