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Abstract:	We report inelastic neutron scattering measurements on Na 2IrO 3, a candidate for the Kitaev spin model on the honeycomb lattice. We observe spin-wave excitations below 5meV with a dispersion that can be accounted for by including substantial further-neighbor exchanges that stabilize zigzag magnetic order. The onset of long-range magnetic order below T N=15.3K is confirmed via the observation of oscillations in zero-field muon-spin rotation experiments. Combining single-crystal diffraction and density functional calculations we propose a revised crystal structure model with significant departures from the ideal 90°Ir-O-Ir bonds required for dominant Kitaev exchange.
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