

Abstract Submitted
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Magnetic excitation in artificially designed oxygen molecule magnet TAKATSUGU MASUDA, International Schools of arts and sciences, Yokohama city university, SATOSHI TAKAMIZAWA, KAZUMA HIROTA, MASA AKI OHBA, SUSUMU KITAGAWA — We performed inelastic neutron scattering experiment to study magnetic excitation of O₂ molecules adsorbed in microporous compound. The dispersionless excitation with characteristic intensity modulation is observed at $\hbar\omega = 7.8$ meV at low temperature. The neutron cross section is explained by spin dimer model with intradimer distance of 3.1 Å. Anomalous behaviour in the temperature dependence is discussed in the context of enhanced magnetoelasticity in the soft framework of O₂ molecule.

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