ABSORPTIONS BETWEEN 3000 AND 5500 cm\(^{-1}\) OF NORMAL AND OXYGEN-18 ENRICHED O\(_3^+\) AND O\(_4^-\) TRAPPED IN SOLID NEON

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Very recently, Ricks, Douberly, and Duncan\(^a\) have assigned absorptions in the 3000 to 4300 cm\(^{-1}\) spectral region to combination bands of gas-phase cyc-O\(_4^+\). Other experiments by Kelley, Robertson, and Johnson\(^b\) identified vibronic bands between 4000 and 5300 cm\(^{-1}\) of gas-phase O\(_4^-\) complexed with an argon atom. Absorptions corresponding to these bands have been observed in the present experiments for both cyc-O\(_4^+\) and O\(_4^-\), as well as for several of their isotopologues trapped at 4.3 K in solid neon. The results will be compared with the gas-phase data, and possible assignments will be considered taking into account the results of isotopic substitution.