**Analysis of pairing correlations in neutron transfer reactions and comparison to the constrained molecular dynamics model**

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The transfer yields mass spectra were measured in $^{11}$B, $^{12,13}$C, $^{28}$Si($^{18}$O,$^{17}$O) and $^{11}$B, $^{12,13}$C, $^{28}$Si($^{18}$O,$^{16}$O) reactions at 84 MeV. The two-neutron transfer (2NT) and the one-neutron transfer (1NT) cross sections were extracted for all the systems. The 2NT cross section is found comparable to the 1NT one and remarkably larger than that predicted assuming no correlations among the two transferred nucleons and only natural parity states are populated via the ($^{18}$O,$^{16}$O) two-neutron transfer reaction. Calculations based on the constrained molecular dynamics model show that such behavior is uniquely a consequence of neutron pairing correlations in the $^{18}$O ground state [1].

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