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Dynamic effects in the C 1s excitation spectra of ethene isotopomers

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Abstract

We have measured the C 1s near-edge photoabsorption spectrum of the ethene isotopomers C₂H₄, C₂D₄, (1, 1)C₂H₂D₂ and cis-C₂H₂D₂ at high resolution using order-sorted, monochromatised undulator radiation. An analysis of the vibrational fine structure on the 1s-π* band indicates strong excitation of non-totally symmetric modes and provides direct evidence for symmetry breaking and core hole localisation.

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