Molecular Gas, AGN Feedback and the Unusual Case of NGC1266

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NGC1266 is an S0 galaxy that was observed in multiple wavelengths as part of the ATLAS^{3D} effort. It remarkably hosts about 10^9 $M_\odot$ of molecular gas and has a spectrum that exhibits extended wings of up to $\pm$400 km s^{-1}. High resolution CARMA observations have shed further light on this galaxy and revealed that the bulk of the gas is concentrated within 100 pc of the nucleus. Combined with the presence of an AGN and molecular gas outflowing faster than $v_{\rm esc}$, this galaxy is an excellent candidate for AGN feedback. If so, it is the first example of molecular feedback into the IGM from a relatively normal galaxy. How the gas fell so deeply into the potential well, and the exact nature of the driving mechanism behind the expulsion of the gas, remain mysteries.