

Poster at Splinter Meeting

Splinter B

SoFIA - AN HI SOURCE FINDING PIPELINE

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With the development of new instruments, radio astronomy is entering an era of big data. Surveys of neutral hydrogen gas over large areas of the sky will deliver unbiased samples of hundreds of thousands of galaxies to study galaxy formation and evolution. The detection of neutral hydrogen emission from galaxies in these new, extremely large 3-dimensional datasets cannot be carried out visually and will require automated methods. We introduce SoFiA, an open source pipeline that combines different algorithms for detecting and parametrising sources in 3D data volumes. SoFiA has been developed in Python, C++ and Cython using Python libraries like Numpy, Scipy and Astropy. We present SoFiA's current capabilities as well as use cases and address its current limitations. Furthermore, we discuss possible ways to extend the pipeline and planned development.