

## Extragalactic chemistry of starbursts

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The HIFI instrument for FIRST will survey the molecular inventory of the ISM in nearby galaxies from the disks of starbursts systems to the toroids feeding or interacting with AGN engines. The chemical enrichment of molecular gas in the circumnuclear disks of starbursts, will be studied by the measurement of the FIR line spectrum with HIFI, for a significant sample of nearby spirals. Most importantly, the high spectral resolution of HIFI will allow to analyse the link between the chemical processing of gas and the onset of large-scale shocks related to the ubiquitous spiral/barred instabilities. With these aims, our group is conducting a interferometric survey of molecular gas in a selected sample of nuclear starbursts (including NGC253, M82, IC342, NGC3593, NGC891,...) and also, a parallel survey of AGN nuclei (including 15 spirals).

In this paper we present an extract of these surveys, including the first high-resolution SiO maps made in two external galaxies: NGC253 and M82. The nucleus of the nearby barred spirals NGC 253 and M82 have been observed simultaneously in the  $v=0$ ,  $J=2-1$  line of SiO and in the  $J=1-0$  line of  $H^{13}CO^+$  with the IRAM interferometer. Emission from SiO and  $H^{13}CO^+$  is extended in the nucleus of NGC 253. The kinematics of the gaseous disk in NGC253, characterized by strong non-circular motions, is interpreted in terms of the resonant response of the gas to the barred potential. The link between chemical processing of gas and the onset of large-scale shocks is discussed, as well as possible follow-up studies by HIFI in this field by the observation of water lines, and high J rotation lines of CO,  $HCO^+$  and CS.