Water abundance: first interferometer maps of $H_2^{18}O$ and other water isotopes towards hot molecular cores

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Spectral lines of Water are difficult to observe from ground-based telescopes. Observations of the isotopic species $H_2^{18}O$ with single dish radio-telescopes gave estimates of water column densities towards hot molecular cores (see e.g. Jacq et al. 1988 A&A 199, L5; Gensheimer et al. 1996 A&A 314, p. 281). However, the low spatial resolution of these data hampered the interpretation of the results. We then decided to observe some of these sources with the IRAM interferometer and we present here preliminary results obtained towards Orion IRc2. We have mapped Orion in the following transitions : $H_2^{18}O$ (203.4 GHz) and HDO (80.6 GHz) with five antennas in the array; HDO (225 GHz) and NH_2D (110 GHz) with four antennas. First analysis is ongoing and shows the clumpiness of the gas cloud with the bulk of the emission being clearly resolved by the interferometer.