CO Mapping of Spiral Galaxies in the Ursa Major Cluster

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The properties of molecular gas in spiral galaxies is the subject of a wide field of research (e.g. Young and Scoville 1991 and the references therein) and much has been done on the global scale of galaxies. The advent and maturity of the On-The-Fly (OTF) mapping technique at the NRAO 12m radio telescope now affords us with a way to address many issues on the more local scales within a large number of nearby spiral disks that are many arcminutes in diameter. We start a project which aims at OTF mapping of the distribution of 12CO(J=1-0) emission in spiral galaxies in the Ursa Major cluster and compare in detail the distributions of the molecular gas to that of the neutral hydrogen as a function of the morphological type, surface brightness, dust content and temperature and the star formation threshold of a galaxy's disk. We will present the preliminary results of the OTF CO(J=1-0) mapping of spiral galaxies in the Ursa Major cluster, obtained with the NRAO 12m radio telescope during June 20-27 this year.