PAINEL 203

## PHOTOMETRIC AND SPECTROSCOPIC STUDY OF LOW MASS STAR CLUSTERS EMBEDDED IN NEBULAE

**Jules Soares[1], Eduardo Bica[1], Andrea V. Ahumada[2], Juan J. Clariá[2]**
**1 - IF/UFRGS**
**2 - Observatório Astronomico de Cordoba**

The analysis of a sample of candidate embedded stellar systems in reflection nebulae and/or HII region environments is presented. Optical spectroscopic observations of stars in the clusters direction with CASLEO together with near infrared photometry from the 2MASS Point Source Catalog were employed. The analysis is based on source surface density, colour-colour and colour-magnitude diagrams together with theoretical pre-main sequence isochrones. We take into account the field population contamination by carrying out a statistical subtraction. The fundamental parameters for the stellar systems were derived. Most of the objects are very young, with ages smaller than 2 Myr. The total masses locked in the clusters are in the range $20M_{\odot}$ - $200M_{\odot}$. The studied embedded systems in reflection nebulae and/or HII region complexes do not have stars of spectral types earlier than B.

PAINEL 204

## A MAP OF THE SKY AT 2.3 GHz: A NEW SYNCHROTRON TEMPLATE OF GALACTIC EMISSION

**Camilo Tello[1], Thyrso Villela[1], Sergio Torres[2], Marco Bersanelli[3], George Smoot[4], Ivan S. Ferreira[1], Armand Cingoz[4], James Lamb[5], Domingos Barbosa[6], Daniel Perez-Becker[4], Sara Ricciardi[7], Jean A. Currivan[4]**
**1 - INPE**
**2 - Centro Internacional de Física - Colômbia**
**3 - Universidade de Milão, Itália**
**4 - Universidade da Califórnia, Berkeley, EUA**
**5 - Universidade da Califórnia, Santa Bárbara, EUA**
**6 - Universidade do Porto, Portugal**
**7 - Universidade de Roma, Itália**

Determining the spectral and spatial characteristics of the radio continuum of our Galaxy is an experimental challenging endeavour for improving our understanding of the astrophysics of the interestellar medium. This knowledge is equally important for cosmology, since Galactic emission is a non-negligible foreground contaminant in measurements of the Cosmic Microwave Background radiation. We present the scope of the Galactic Emission Mapping (GEM) project and its results at 2.3 GHz. Its observational program was conceived and



developed to reveal the large scale properties of Galactic synchrotron radiation in total intensity and polarization through a self-consistent set of radio continuum surveys between 408 MHz and 10 GHz. GEM's unique observational strategy and experiment design will deliver foreground templates that overcome the mutual inconsistencies between existing surveys. The GEM experiment uses of a portable and double-shielded 5.5m radiotelescope on a rotating platform to map 60deg wide declination bands, from different observational sites, by scanning the sky in azimuth with a 30deg opening angle from the Zenith. The observations were done with a total power receiver, whose front-end HEMT was matched directly to a cylindrical horn at the prime focus of a parabolic reflector. For this first GEM survey, 484 hours of observations were used from two locations in Colombia and Brazil to yield a 69% sky coverage from δ=-53deg to δ=+35deg with a horizontal HPBW of 2.30deg and a vertical HPBW 1.85deg. The pointing accuracy is 8.6 arcmin with an RMS sensitivity of 9.8±1.6 mK.