

COMPACT GROUP CATALOGUE IN 2MASS

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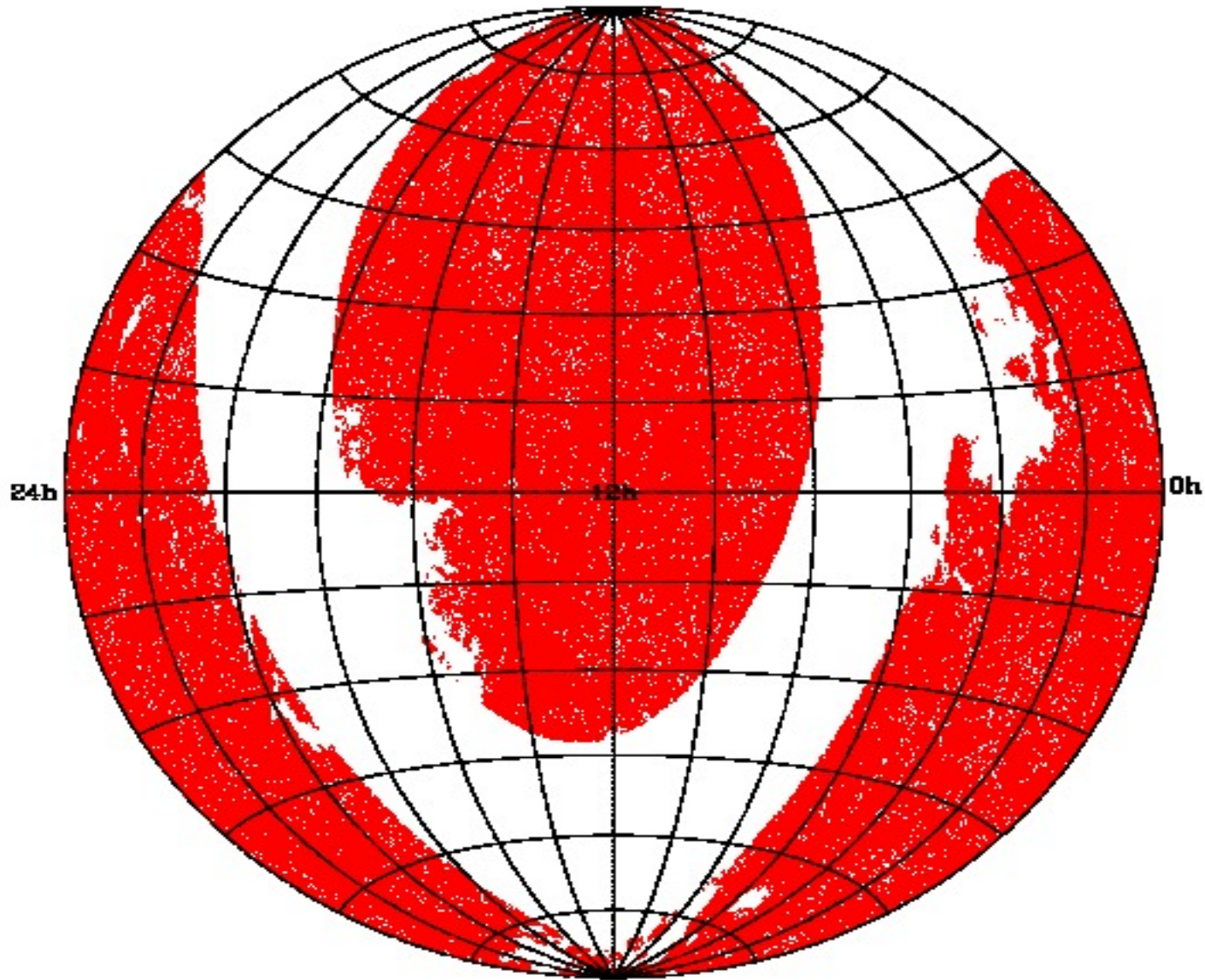
What is a Compact Group?

- They are the smallest systems of galaxies.
- Hold between typically 4 to 6 galaxies
- Have high compactness
- Small velocity dispersion

The base catalogue: 2MASS XSC

- Two Micron All Sky Survey is a uniform survey of relatively close sources for 3 bands of near infrared: J, H & K_s .
- The XSC have almost 1.6 millions of extended sources more brilliant than $K_s = 14.3$ mag.

The base catalogue:



Projected 2MASS Compact Groups

Díaz-Giménez
&
Marín (2010)

Automatic
searching
algorithm

- $4 \leq N \leq 10$ (population)
- $\mu_k \leq 24 \text{ mag arcsec}^{-2}$ (compactness)
- $\theta_N < 3\theta_g [K_{\text{bri}}, K_{\text{bri}} + 3]$ (isolation)
- $K_{\text{brillant}} \leq 10.57$ (flux limit)

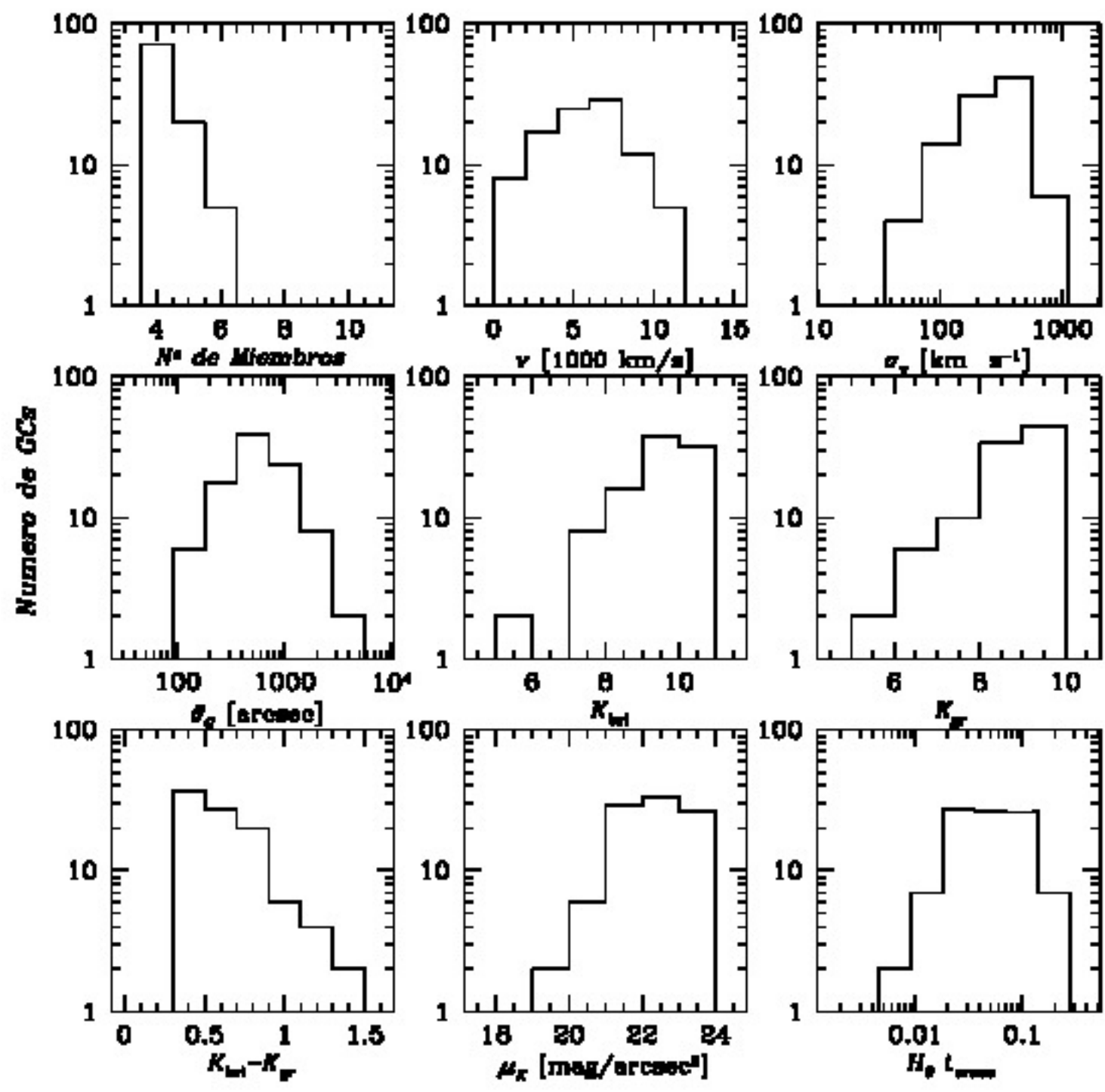
Projected 2MASS Compact Groups

**We identified 295
p2MCGs**

2MASS Compact Group filtered in radial velocity

**We look for redshifts of the galaxies
from p2MCGs in spectroscopic SDSS
DR7, 6dFRS, NED and Huchra & Macri
gave us 34 radial velocities.**

**We found 97 CGs filtered in radial
velocity (v2MCGs). This is 56% of the
p2MCGs. **This is the largest catalog of
CGs nowadays!!!****



Main conclusions

- **We construct a brand new catalog of Compact Groups from the 2MASS XSC, that contains 97 velocity filtered CGs.**
- **The v2MCG sample is one of the closer and brightest samples of CGs.**
- **These CGs have their brightest member more bright than CGs in other catalogues.**

