

# THE MAGELLANIC CLOUD CANDIDATE STAR CLUSTERS: ASTERISMS VERSUS GENUINE STAR CLUSTERS

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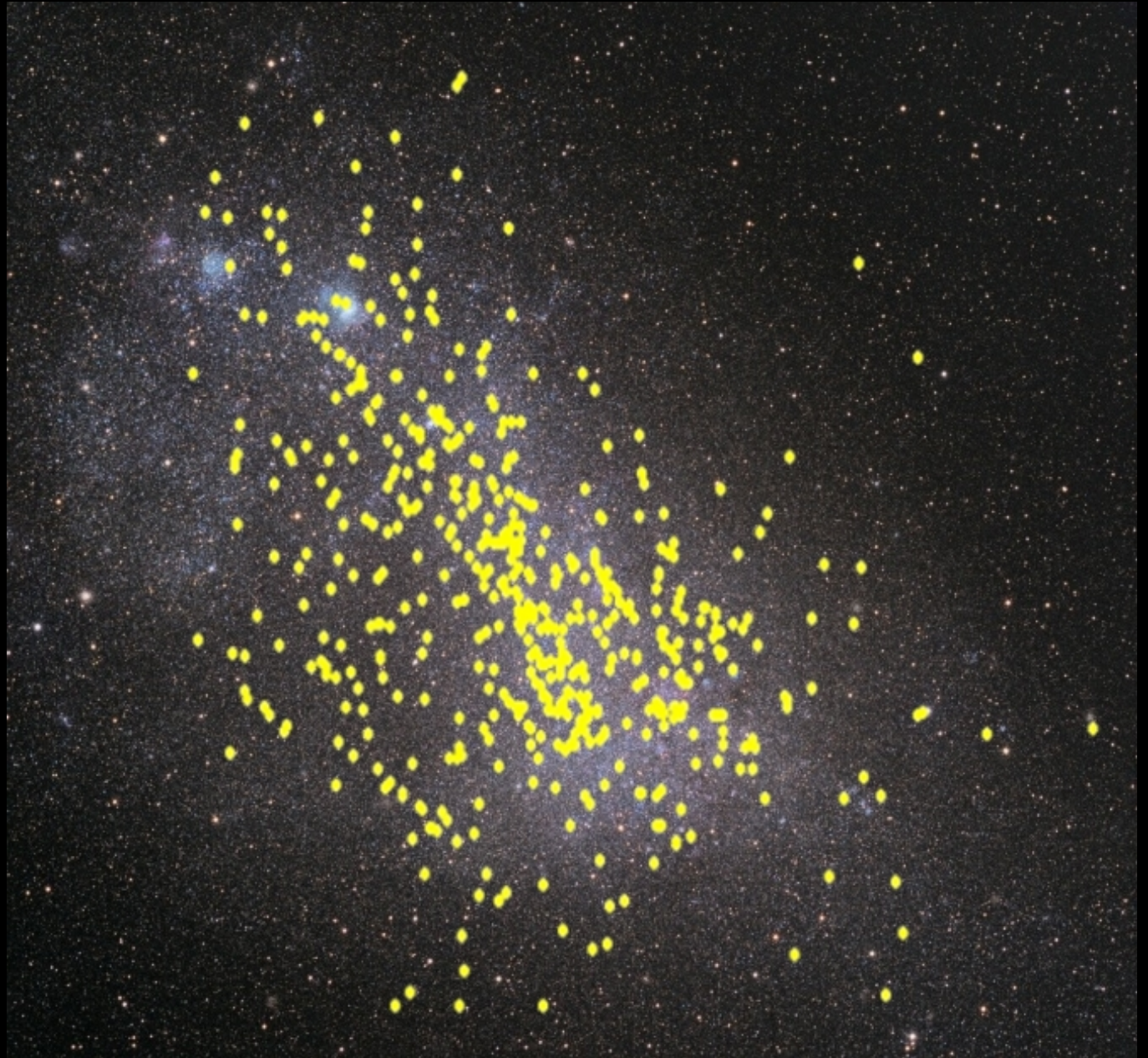
# The Small Magellanic Cloud





# The SMC star cluster population

◆ 603 candidate  
star clusters  
(Bica et al., 2008)





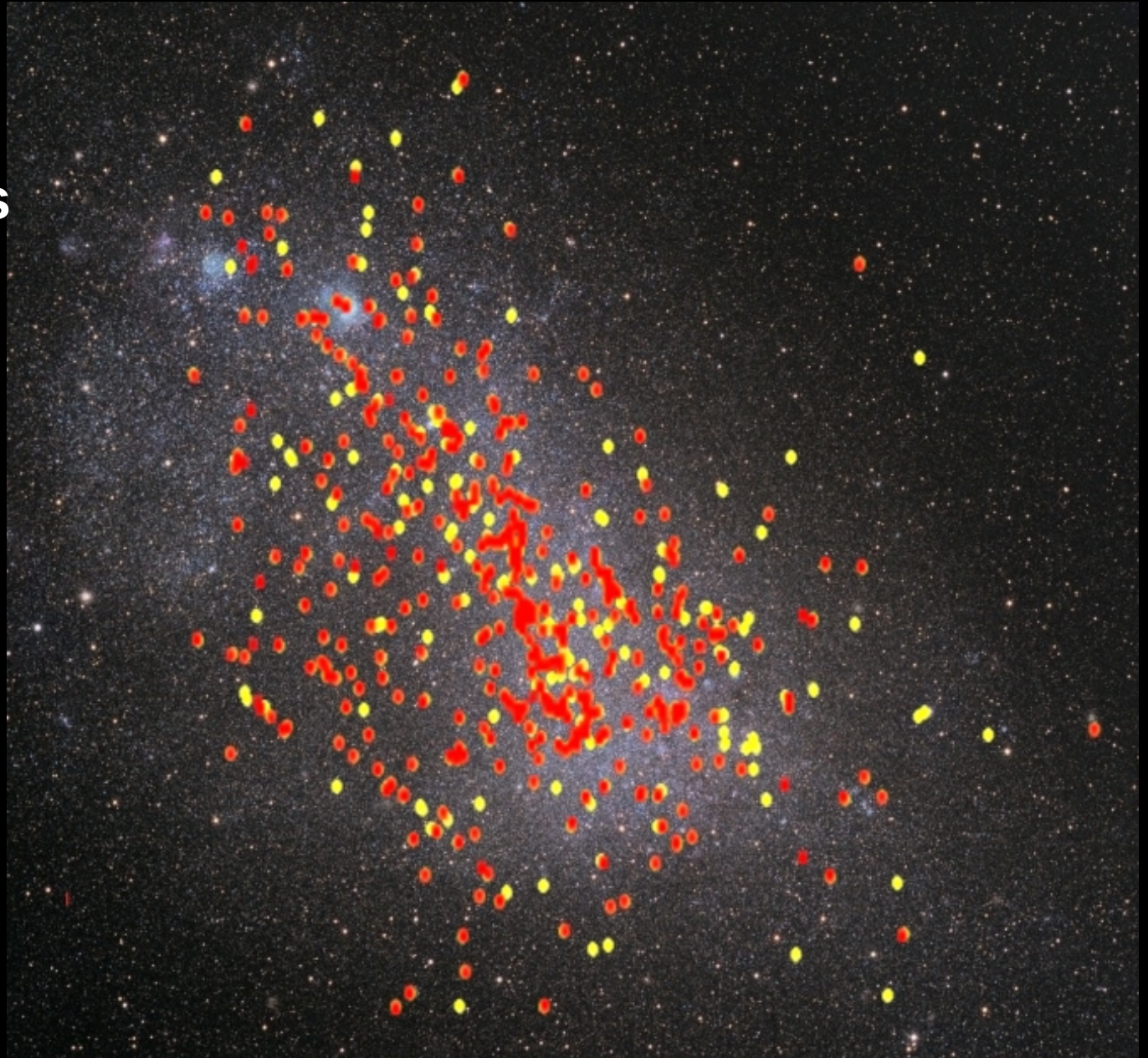
# Star clusters in the Small Magellanic Cloud

- ◆ 468 star clusters  
( $t < 1$  Gyr):

Chiosi et al. (2006)  
+  
Glatt et al. (2010)

- ◆ 60 star clusters  
( $t > 1$  Gyr):

Piatti (2011a,b, 2013)

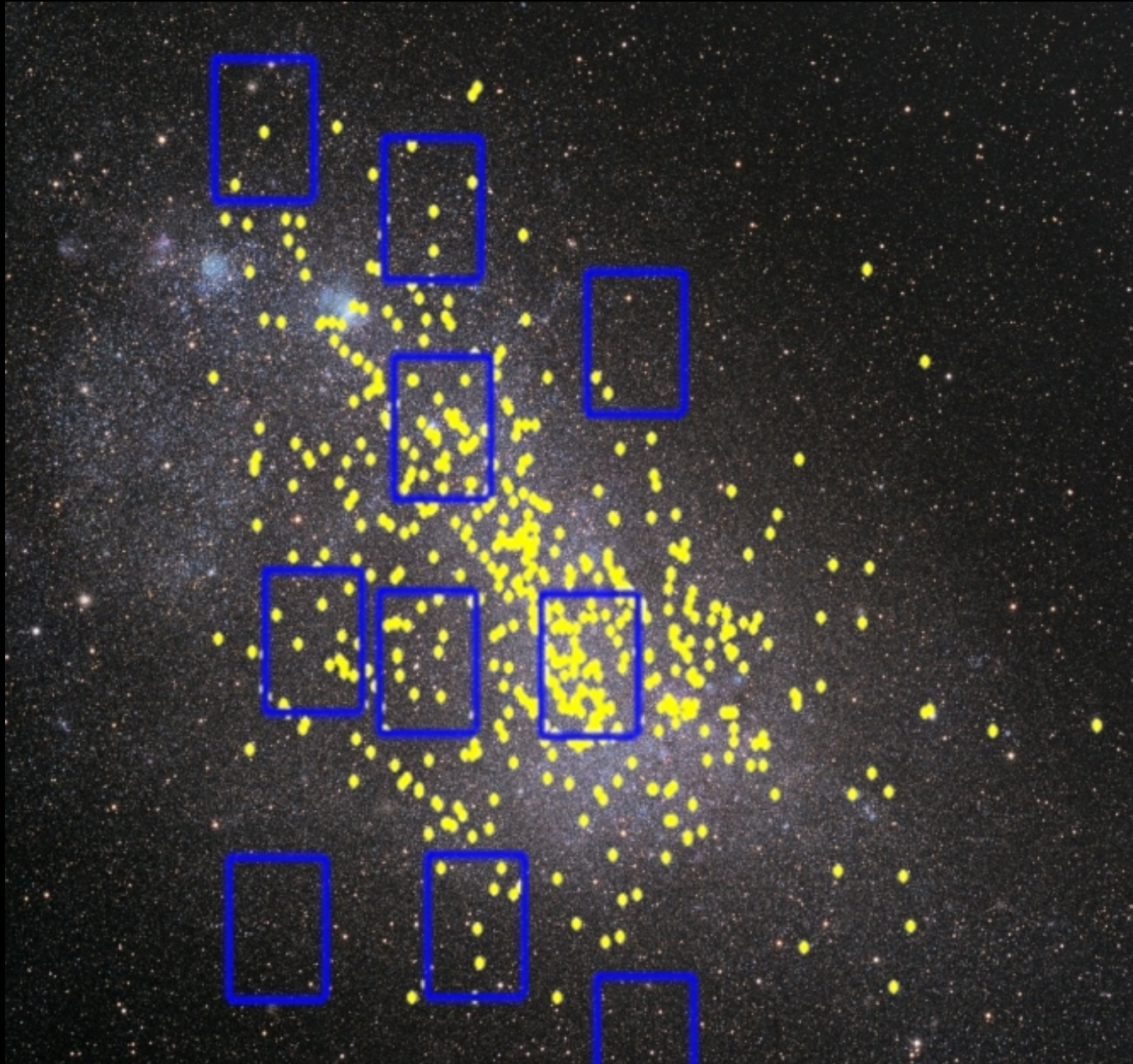


# Star clusters in the Small Magellanic Cloud

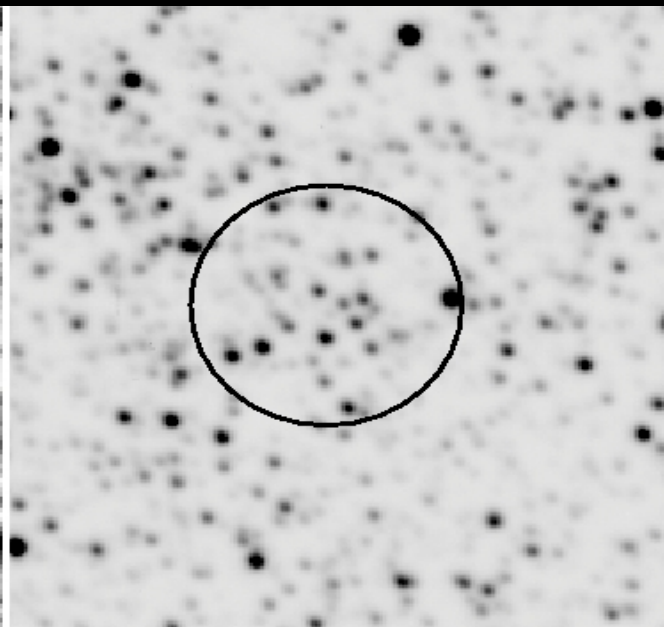
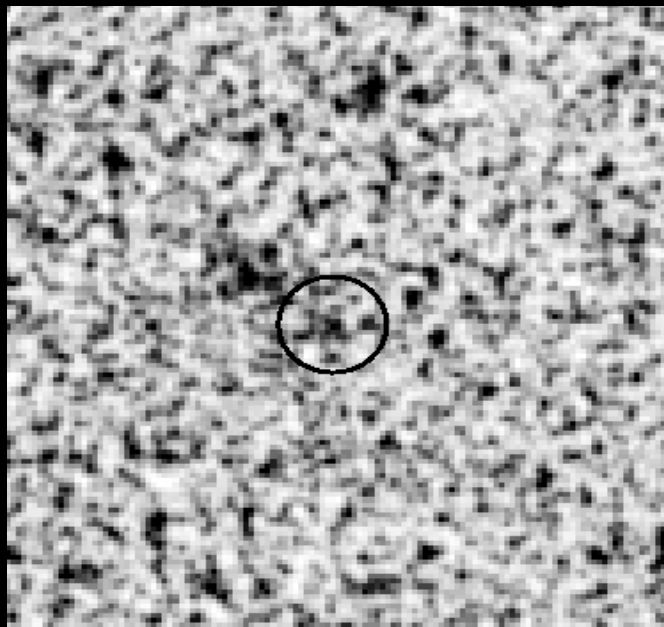
- ◆ **Cataloged star clusters** **603**  
(Bica et al., 2008)
- ◆ **Studied star clusters** **528 (87%)**  
(C06, G10, P11a,b,13)
- ◆ **Unstudied star clusters** **75 (13%)**



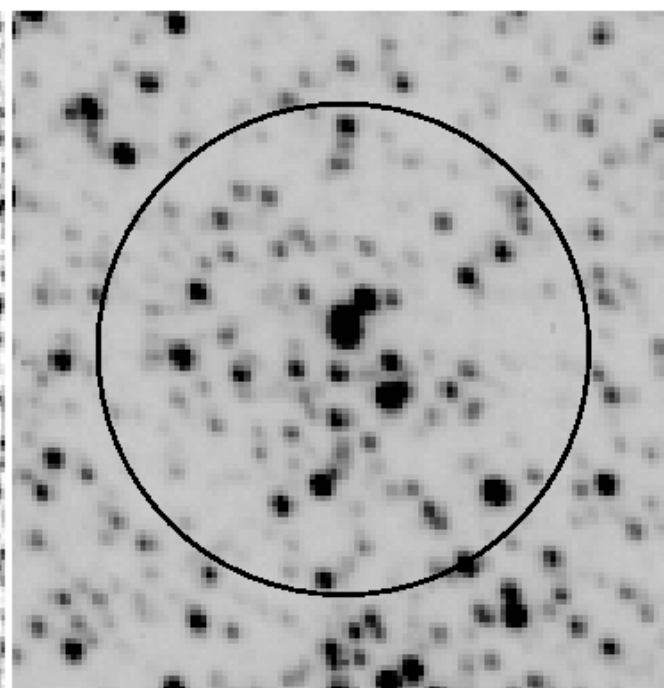
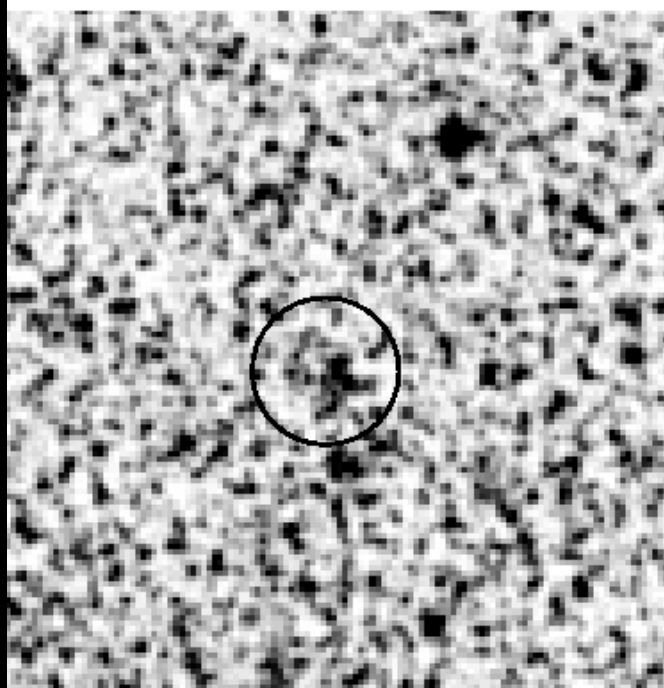
# A SMC WIDE-FIELD PHOTOMETRIC SURVEY



**BS25**



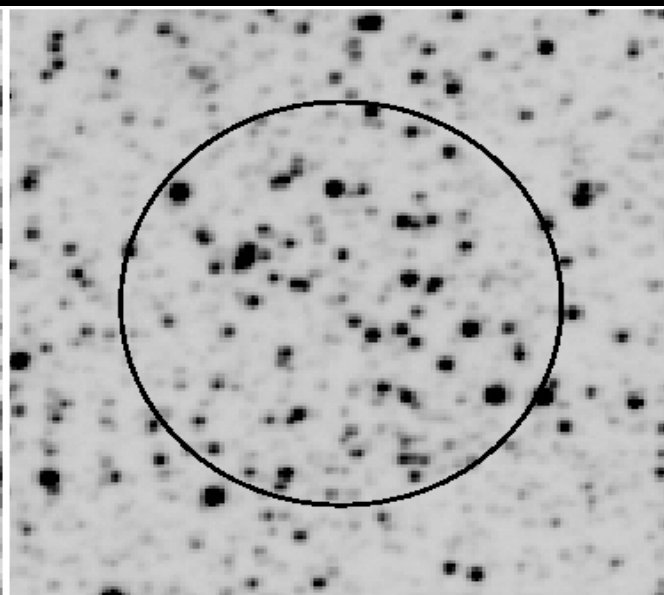
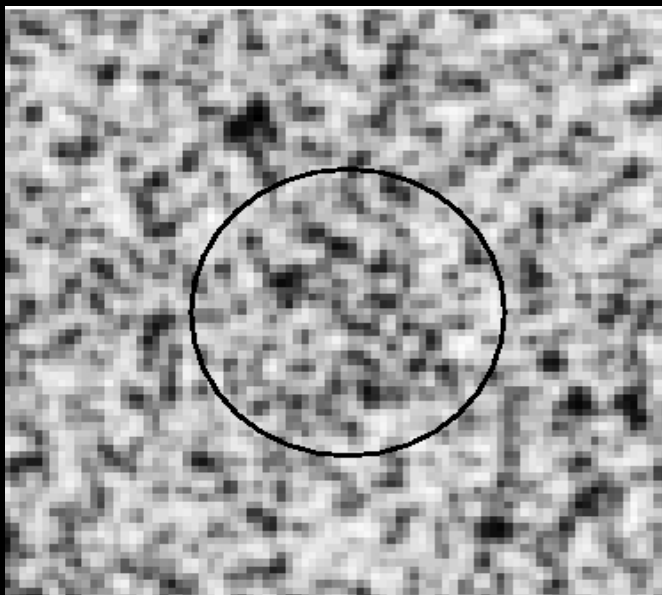
**B119**



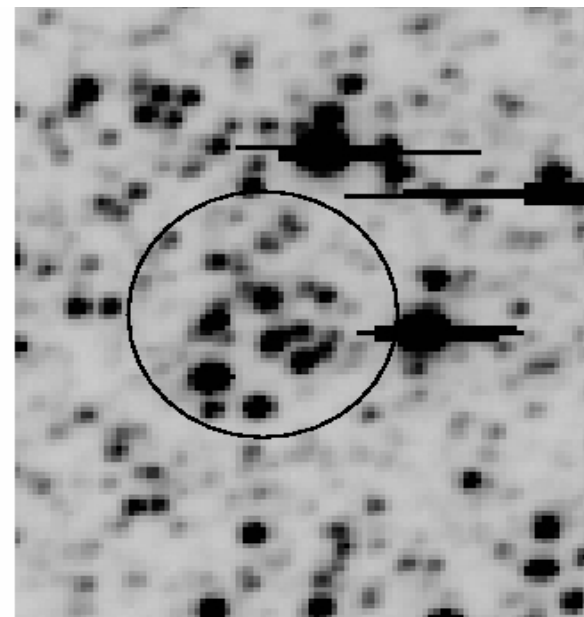
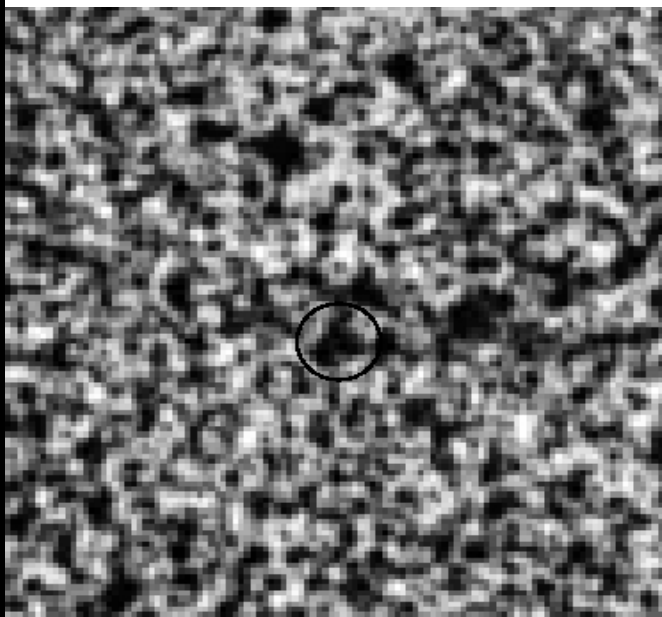
**XDSS B image**

**CTIO4m+MOSAICII C image**

**BS251**



**H86-78s**

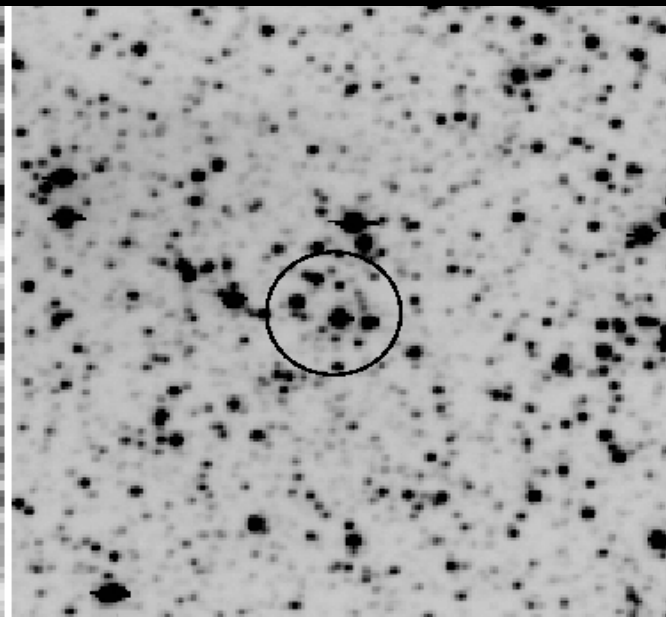
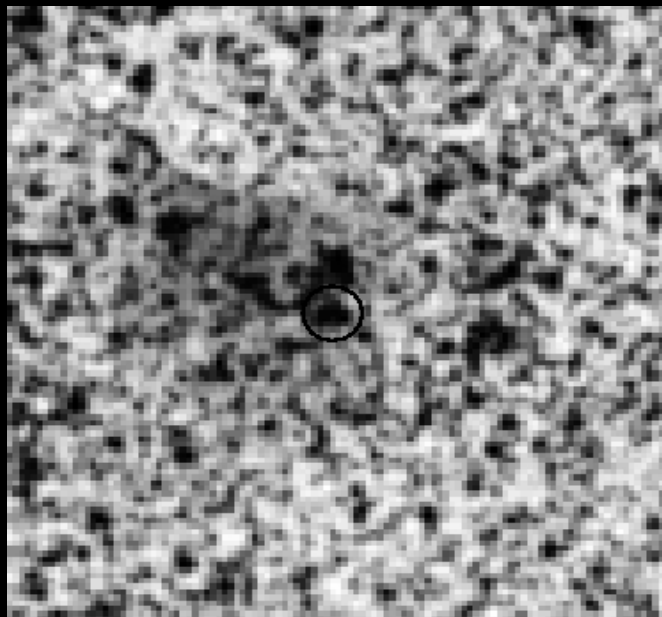


**XDSS B image**

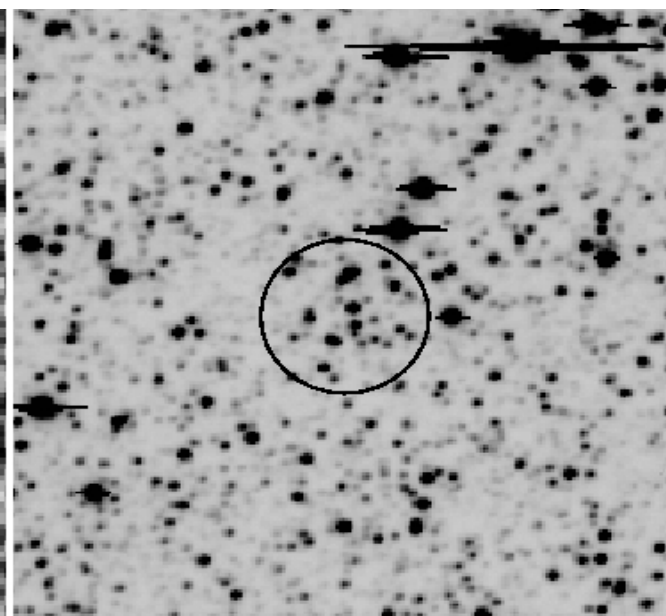
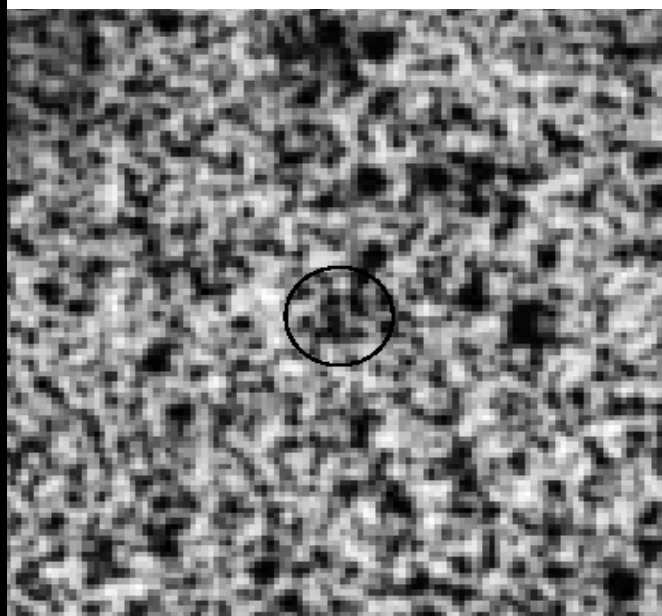
**CTIO4m+MOSAICII C image**



**H86-86**



**H86-88**

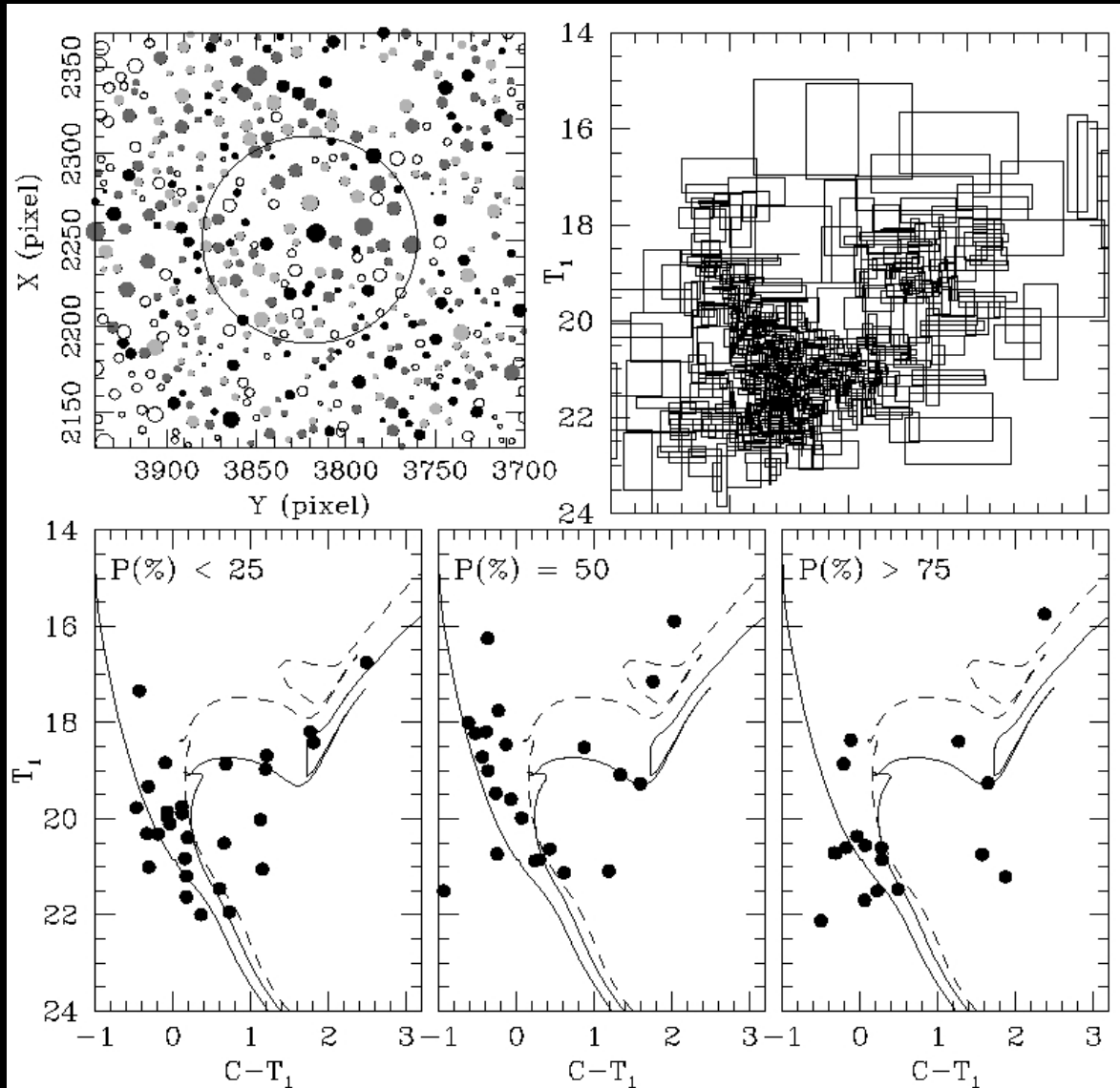


**XDSS B image**

**CTIO4m+MOSAICII C image**

# SMC candidate star clusters

(Piatti & Bica, 2012)



## ◆ variable cells:

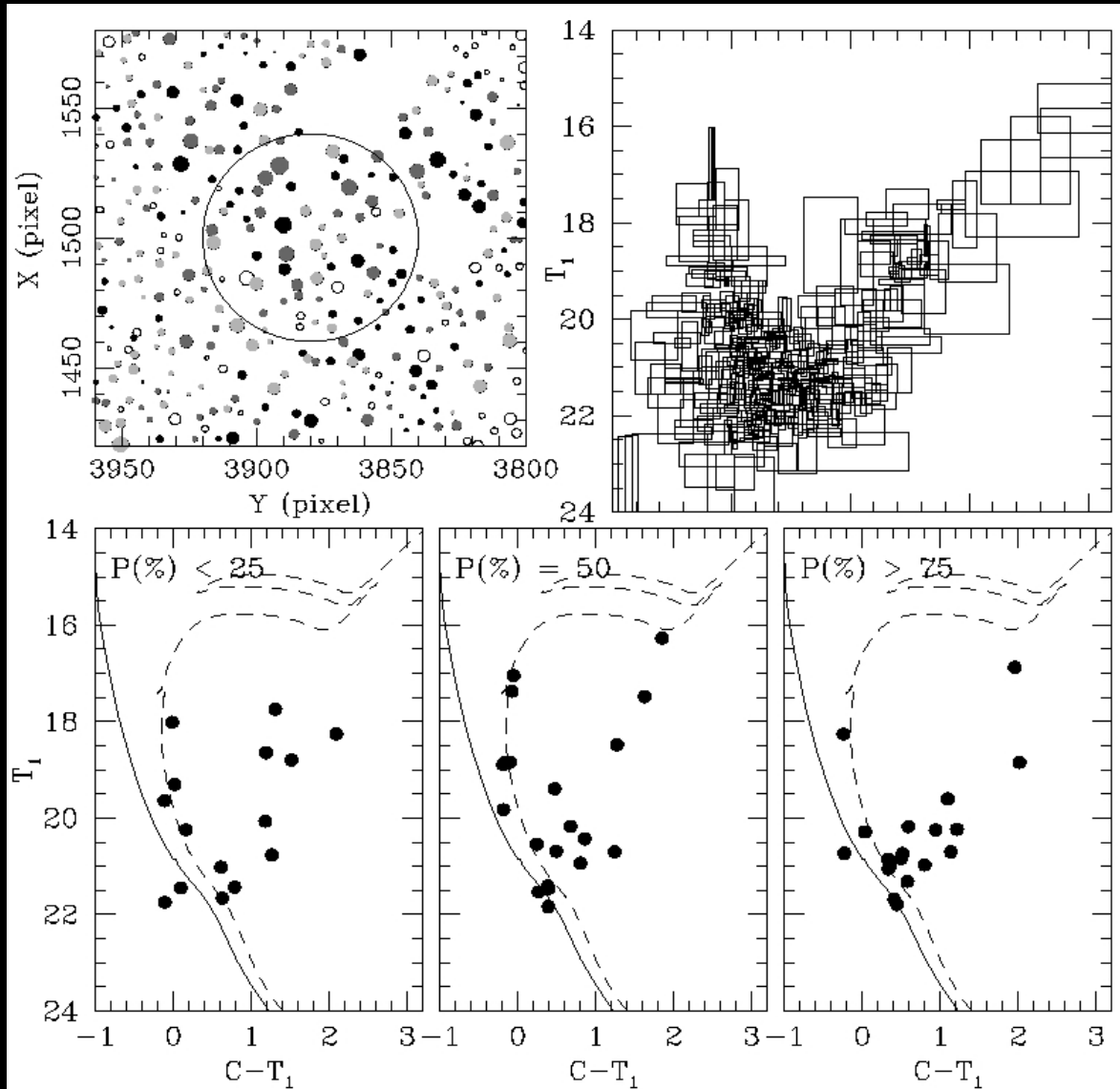
- variable star field density;

- variable CMD's star density;

- stochastic effects (isolated field giants, etc).



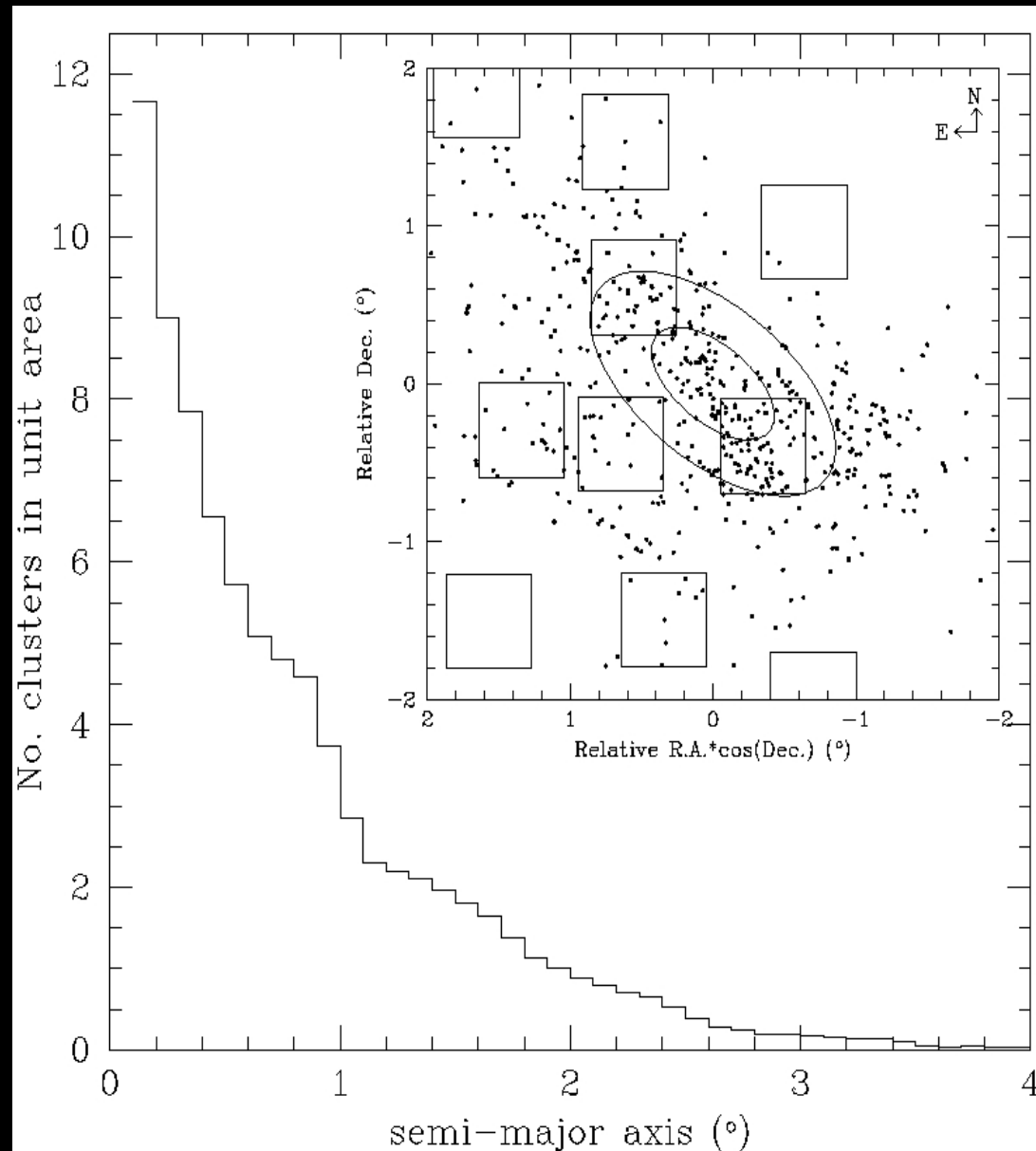
# SMC candidate star clusters (Piatti & Bica, 2012)



## ◆ outputs:

- individual star membership (P%);
- cluster radial profile;
- cluster and field features.

# Spatial distribution of SMC cataloged star clusters





# Spatial distribution of 'expected' SMC star clusters

◆ 10% of  
non-clusters  
(within  $1\sigma$ )

◆  $0.3 < a < 1.2$   
20% of  
non-clusters  
( $> 2\sigma$ )

