MEMORIE DELLA SOCIETÀ ASTRONOMICA ITALIANA

Vol.75 n.1 2004

Stars in Galaxies

IV National Workshop on Stellar Astrophysics
and Joint International Meeting on New Perspectives for Observational Astronomy
at the Canary Islands

Santa Cruz de La Palma, Spain, March 7-11 2003

editors: Michele Bellazzini, Alberto Buzzoni and Santi Cassisi

TABLE OF CONTENTS

Foreword 7

List of Participants 9

The Stellar Population of the Milky Way

A. Aparicio, A. Rosenberg, G. Piotto, I. Saviane, A. Recio-Blanco
The Milky Way Formation Timescale 13

G. Andreuzzi, A. Bragaglia, M. Tosi, G. Marconi
TNG photometry of the open cluster NGC,6939 19

P. Sestito, S. Randich, R. Pallavicini
High resolution spectroscopy of open clusters with SARG 24

A. Bragaglia
Old Open Clusters 28

L. Monaco, F. R. Ferraro, M. Bellazzini, E. Pancino
Building up the Galactic Halo: The Sagittarius dSph and the globular cluster M22 32

T.D. Kinman, A. Bragaglia, C. Cacciari, A. Buzzoni, A. Spagna
The Vertical Structure of the Halo Rotation 36

G. Israelian
Abundances of α-elements in the ultra-metal-poor giants CS29498-043 and CS22949-037. 40

G. Busso, G. Piotto, S. Cassisi
HST multiband photometry of the globular cluster NGC 6388 46

V. Testa, W. Becker, D. A. Swartz,G. G. Pavlov, R. F. Eisner, J.Grindlay, R. Mignani, A. F. Tennant, D. Backer,L.Pulone,M.C.Weisskopf
Chandra X-ray observations of the globular cluster M28 and optical HST identification of the X-ray sources 50

F. Caputo
RR Lyrae stars in M3 54

A. Ruoppo, V. Ripepi, M. Marconi, G. Russo
A new Period-Radius relation for Galactic Classical Cepheids 61

A. Miglio, E. Antonello
Seismic properties of solar-type stars 65

E. Poretti
Ground–based characterisation of the asteroseismictargets for the COROT space mission 69

R. L.M. Corradi
Stellar paleontology using planetary nebulae 73

P.G. Prada Moroni, O. Straniero, G. De Marchi, F. Paresce
White dwarf cosmochronology and M4 81

M. Cignoni, P.G. Prada Moroni, S. Degl'Innocenti
Galactic structure and white dwarf populations 85

L. Testi
Formation and Early Evolution of Brown Dwarfs 89

R.G. Gratton, E. Carretta, R.U. Claudi, S. Desidera, S. Lucatello, M.Barbieri, G. Bonanno, R. Cosentino, S. Scuderi, M.Endl, F.Marzari
The SARG exo-planets search 97

Stellar Populations in Resolved External Galaxies

M. Tosi
Stellar populations and star formation histories in late-type dwarfs 103

L. Rizzi, E. V. Held, G. Bertelli, I. Saviane
Spatially resolved star formation histories in Local Group dwarf spheroidal galaxies. 110

M. Monelli, A.W. Walker, G. Bono, R. Buonanno, F. Caputo, M.Castellani, V. Castellani C. E. Corsi, M. Dall'Ora, M.Marconi,L.Pulone, V. Ripepi, M. Nonino, E.Brocato,H.Smith
Wide Field Optical Photometry of the Carina Dwarf Spheroidal Galaxy 114

M. Bellazzini
The RGB Bump in dwarf Spheroidal galaxies: discovery and perspectives. 118

D. Fugazza, L. Mantegazza, E. Antonello
SV 39: a strange variable star in the field of the Local Group galaxy IC 1613 122

L. Baldacci, F. Matonti, L. Rizzi, G. Clementini, E. V. Held, Y.Momany, L. Di Fabrizio, I. Saviane
Variable stars as tracers of stellar populations in Local Group galaxies: LeoI and NGC6822 126

M. Maio, L. Baldacci, G. Clementini, C. Greco, M. Gullieuszik, E.V.Held, E. Poretti, L. Rizzi, A. Bragaglia, E. Carretta, L.Di Fabrizio, R.Gratton, E. Taribello
Distance scale and variable stars in Local Group Galaxies: LMC and Fornax 130

F. Pont, C. Gallart, R. Zinn, E. Hardy
The chemical history of the Fornax dSph galaxy 134

M. Dall'Ora, G. Bono, J. Storm, V. Testa, G. Andreuzzi, R. Buonanno, F. Caputo, V. Castellani, C.E. Corsi, S. Degl'Innocenti, G. Marconi, M.Marconi, M. Monelli, V. Ripepi
Near-Infrared photometry of LMC cluster Reticulum 138

E. Brocato, G. Raimondo, E. Di Carlo, V. Castellani, F. Caputo, I. Musella
Young stellar clusters in LMC: Can we still learn something from NGC 1866? 142

S. Galleti, C. Cacciari, L. Federici, E.V. Held, A. Moretti, L. Rizzi, V. Testa
Searching for globular clusters in NGC253 146

E. Di Carlo
Optical and near-infrared photometry of supernovae in galaxies of the local Universe 150

New Clues from Model Updates: Evolutionary Stellar Tracks, Pulsation Theory and Model Atmospheres

L. Crivellari, E. Simonneau, O. Cardona
Structure and components of an LTE stellar atmosphere model 154

E. Bertone, A. Buzzoni, L. H. Rodríguez-Merino, M. Chávez
Stars at high resolution: a library of synthetic spectra from 850 to 7000Å 158

S. Cassisi
Stellar evolution for old stellar populations: good news and ... open problems. 162

A. Pietrinferni, S. Cassisi, M. Salaris
A new database of evolutionary models for low- and intermediate-mass stellar structures 170

S. Cristallo, R. Gallino, O. Straniero
Self-consistent ctpocket in low mass AGB stars and related nucleosynthesis 174

A. Tornambè, L. Piersanti, I. Iben, Jr., S. Gagliardi
Self-Regulating Accretion Toward Chandrasekhar Mass and SNe Ia Events in Binary Systems of Merging White Dwarfs 178

M. Pignatari, R. Gallino, O. Straniero, R. Reifarth, F. Käppeler, A.M.Davis
Stellar origin of the meteoritic Xe-S anomalous component 182

S. Petroni, G. Bono
Galactic Cepheid pulsation models: dependence on inputparameters 186

M. Di Criscienzo, M. Marconi, F. Caputo
Pulsation models of RR Lyrae stars: dependence on the mixing-length parameter α. 190

G. Fiorentino, M. Marconi, F. Caputo
An updated theoretical scenario for Anomalous Cepheid pulsating stars 194

Stars in Distant Galaxies

G. Raimondo, M. Cantiello, E. Brocato, M. Capaccioli
Surface Brightness Fluctuations: a powerful tool for investigating unresolved stellar populations 198

R. Tantalo
Measuring age, metallicity and abundance ratios from absorption line indices 202

E. Cappellaro
The evolution of the cosmic SN rate 206

E. Pignatelli, C. Marmo, B. M. Poggianti, D. Bettoni, G. Fasano, J. Varela, M. Moles, P. Kjaergaard, W. Couch, A. Dressler
WINGS: a photometric, morphological and spectroscopic library of nearby cluster galaxies 214

The Joint Meeting on New Perspectives for Observational Astronomy at the Canary Islands

E. Oliva
Telescopio Nazionale Galileo: a status report 218

R.G.M. Rutten
Instrumentation plans for the William Herschel Telescope 224

J. Andersen
Present and future scientific priorities for NOT 227

A. Moralejo
The MAGIC telescope for gamma-ray astronomy above 30 GeV 232

G. Ceppatelli
THEMIS : a powerful solar telescope for spectro-polarimetry 240

R. Ragazzoni
Adaptive Optics for Large Telescopes 245