

## Contents

<i>Participants</i>	xi
<i>Preface</i>	xiii
<b>Violent Star Formation in 30 Doradus</b>	
<i>R. C. Kennicutt &amp; Y.-H. Chu</i> . . . . .	1
<b>The Initial Mass Function of the Center of 30 Doradus</b>	
<i>E. M. Malumuth &amp; S. R. Heap</i> . . . . .	13
<b>The Nature and Kinematics of the Emission Nebulae in the Cyg OB1 Supershell</b>	
<i>T. G. Sitnik &amp; V. V. Pravidkova</i> . . . . .	19
<b>Asymmetry in the Vertical Distribution of Giant Molecular Clouds in the Carina Arm</b>	
<i>E. J. Alfaro et al.</i> . . . . .	23
<b>Supersonic Motions in Giant HII Regions</b>	
<i>C. Muñoz-Tuñon</i> . . . . .	25
<b>A Kinematical Study of NGC 604</b>	
<i>N. S. P. Sabalisk et al.</i> . . . . .	39
<b>UV Spectroscopy of Giant Extragalactic HII Regions: the Case of NGC 604</b>	
<i>L. Sanz Fernández de Córdoba</i> . . . . .	41
<b>Evolution of GEHRs: The Effects Caused by Champagne Flows</b>	
<i>J. A. Rodríguez-Gaspar &amp; G. Tenorio-Tagle</i> . . . . .	43
<b>Bursts of Star Formation in Central Disks of Galaxies</b>	
<i>V. Surdin</i> . . . . .	45
<b>Violent Star Formation</b>	
<i>G. Tenorio-Tagle</i> . . . . .	50
<b>Superassociations as Star Complexes with Violent Star Formation</b>	
<i>Yu. N. Efremov</i> . . . . .	61
<b>Violent Star Formation Driven by Shock-Shock Collisions</b>	
<i>A. Chernin &amp; Yu. N. Efremov</i> . . . . .	65
<b>The Search for Hierarchical Structure inside M31 Superassociations</b>	
<i>P. Battinelli et al.</i> . . . . .	68
<b>A Stochastic PSF Model: Smooth Spirals in Differentially Rotating Disks</b>	
<i>J. Palouš &amp; B. Jungwiert</i> . . . . .	70
<b>Spatiotemporal Pattern Driven by a Self-Regulating Mechanism of Star Formation</b>	
<i>A. Parravano</i> . . . . .	75
<b>Detection of an Age Gradient along the z-Axis in a Star-Forming Region</b>	
<i>E. J. Alfaro et al.</i> . . . . .	77
<b>Abundances of HII Regions and the Chemical Evolution of Galaxies</b>	
<i>M. Peimbert et al.</i> . . . . .	79

viii	Contents	
Galaxy Properties in Different Environments: Star Formation in Bulges of Late-Type Spirals		
<i>M. G. Pastoriza et al.</i>	.....	94
Star Formation in Galaxies in the Bootes Void		
<i>D. Weistrop</i>	.....	100
Physical Properties of Giant Extragalactic HII Regions		
<i>A. I. Díaz</i>	.....	105
The Giant HII Region NGC 2363		
<i>R. González-Delgado et al.</i>	.....	117
Photometric Diagrams of NGC 2366		
<i>A. Aparicio et al.</i>	.....	123
Spectroscopical Imaging of Star-Forming Regions		
<i>J. M. Mas-Hesse et al.</i>	.....	125
A Study on the HII Regions of NGC 4449		
<i>O. Fuentes-Masip et al.</i>	.....	131
Metallicity Effects on the Properties of Very Young Star Clusters		
<i>M. L. García-Vargas et al.</i>	.....	133
The Prototype Starburst Galaxy NGC 7714: Physical Conditions of the Gas and the Stellar Populations		
<i>R. González-Delgado et al.</i>	.....	139
Tracing Violent Star Formation: HI Observations of Nearby Galaxies		
<i>E. Brinks</i>	.....	145
Massive Star Formation and Supergiant Shells in the Irregular Galaxy NGC 55		
<i>D. J. Bomans &amp; E. K. Grebel</i>	.....	156
Galactic Supershells		
<i>S. A. Silich et al.</i>	.....	162
Violent Star Formation in Dwarf Irregular Galaxies		
<i>E. Skillman</i>	.....	168
Very Metal-Poor Galaxies and the Primordial Helium Abundance		
<i>E. Terlevich et al.</i>	.....	182
Implications from HI Composition and Ly $\alpha$ Emission of HII Galaxies		
<i>D. Kunth et al.</i>	.....	192
The IR- and X-Radiation of the Starburst Dwarf Galaxy UGCA 86		
<i>G. M. Richter et al.</i>	.....	200
High-Resolution CCD Photometry of HII Galaxies		
<i>E. Telles &amp; R. Terlevich</i>	.....	202
Formation of Narrow HeII $\lambda$ 4686 Emission in HII Galaxies: Link with X-Ray Emission		
<i>C. Motch et al.</i>	.....	208
Environmental Effects in Star-Forming Dwarf Galaxies		
<i>J. M. Vilchez</i>	.....	214

Cambridge University Press

978-0-521-47277-7 - Violent Star Formation: From 30 Doradus to QSOs

Edited by G. Tenorio-Tagle

Table of Contents

[More information](#)

Contents	ix
Theory of Starburst and Ultraluminous Galaxies	
<i>B. Elmegreen</i> . . . . .	220
Colliding Galaxies, Shocked Gas, and Violent Star Formation	
<i>S. A. Lamb et al.</i> . . . . .	243
Violent Star Formation in Merger Remnants	
<i>U. Fritze-von Alvensleben</i> . . . . .	249
UV Variability of IRAS 13224-3809	
<i>J. M. Mas-Hesse et al.</i> . . . . .	256
Star Formation in Polar-Ring Galaxies	
<i>V. Reshetnikov &amp; F. Combes</i> . . . . .	258
Infrared Spectroscopy of IR-Luminous Galaxies	
<i>A. Sternberg et al.</i> . . . . .	263
Application of the Multiphase Model to the Galactic Bulge	
<i>M. Mollá et al.</i> . . . . .	268
Stellar Populations and Population Gradients in Spiral Bulges	
<i>M. Balcells &amp; R. F. Peletier</i> . . . . .	270
Implications of Galaxy Alignment for the Galaxy Formation Problem	
<i>W. Godłowski</i> . . . . .	275
Annular Structure Analysis of the Starburst Spiral Galaxy NGC 7217	
<i>A. M. Varela et al.</i> . . . . .	277
How a Dust Concentration Mimics Dynamical Signatures around the Nucleus of NGC 7331	
<i>F. Prada et al.</i> . . . . .	279
UGC 5101: An Ultraluminous IRAS Galaxy with Circumnuclear Star Formation	
<i>V. Reshetnikov &amp; F. Combes</i> . . . . .	281
The Stellar Content of Nearby and Distant Starbursts	
<i>C. Leitherer</i> . . . . .	283
WR Stars in the Giant HII Region NGC 4236III	
<i>R. González-Delgado &amp; E. Pérez</i> . . . . .	289
Consequences of High Mass Loss Rates on Wolf-Rayet Populations in Starbursts	
<i>G. Meynet</i> . . . . .	291
Optical and Ultraviolet Morphology of the Starburst Regions in Wolf-Rayet Galaxies	
<i>W. D. Vacca</i> . . . . .	297
The Starburst Nucleus of M83	
<i>S. R. Heap</i> . . . . .	303
Spectrophotometry of Haro Starburst Galaxies	
<i>S. Steel et al.</i> . . . . .	309
Starbursts in the Irregular Galaxy VV 523	
<i>J. Hecquet et al.</i> . . . . .	317

x	Contents	
Long-Slit Spectroscopy of the Central Regions of Starburst Galaxies Henize 2-10 and Markarian 52 <i>H. Sugai &amp; Y. Taniguchi</i> . . . . .		319
Star Formation in Active Galactic Nuclei: the Cases of NGC 5135, NGC 6221 and NGC 7130 <i>H. R. Schmitt et al.</i> . . . . .		325
Metallicity Effects on Starburst <i>M. Cerviño &amp; J. M. Mas-Hesse</i> . . . . .		327
From 30 Doradus to QSOs <i>R. Terlevich</i> . . . . .		329
Distance Indicators to Low-Luminosity AGN <i>I. Aretzaga &amp; R. J. Terlevich</i> . . . . .		343
Broad- and Narrow-Band Imaging of the CfA Seyfert Sample <i>A. M. Pérez García &amp; J. M. Rodríguez Espinosa</i> . . . . .		345
Type Transitions in Starburst-Powered AGN <i>I. Aretzaga &amp; R. J. Terlevich</i> . . . . .		347
Stellar Ionization of Low-Luminosity Active Galactic Nuclei <i>J. C. Shields</i> . . . . .		353
Line Profiles in Compact Supernova Remnants and Active Galactic Nuclei <i>R. Cid Fernandes &amp; R. Terlevich</i> . . . . .		365
Composite Galactic Nuclei <i>B. Boer</i> . . . . .		377
The Nature and Origin of X-Ray Emission in Active Galaxies <i>H. Netzer</i> . . . . .		379
Starbursts and Compact Supernova Remnants <i>J. Franco et al.</i> . . . . .		387
Broad-Band and Line Emission from Fast Radiative Shocks in Dense Media <i>T. Plewa</i> . . . . .		396
Study of the Stellar Populations in AGN <i>M. Serote-Roos et al.</i> . . . . .		403
Bidimensional Spectroscopy of Seyfert Galaxies: Offset BLR in NGC 3227 <i>S. Arribas &amp; E. Mediavilla</i> . . . . .		405
ROSAT Detection of the Most Rapidly Varying Seyfert Galaxy <i>Th. Boller &amp; J. Trümper</i> . . . . .		410
QSO Evolution: a Link with Starbursts? <i>B. J. Boyle</i> . . . . .		413
Evolution of Elliptical Galaxies – a Chemo-Dynamical Model <i>A. C. S. Friaça &amp; R. J. Terlevich</i> . . . . .		424
Birth of Galaxies at $z = 2$ or Violent Star Formation at $z = 0.4$ ? <i>A. D. Chernin</i> . . . . .		430