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The High Energy Solar Corona: Waves, Eruptions, Particles

 Springer

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Preface

The Community of European Solar Radio Astronomers (CESRA) organizes workshops on investigations of the solar atmosphere using radio and other observations. These workshops are intended to bring together different communities of observers and theoreticians in order to discuss current problems of the structure and dynamics of the solar atmosphere, its impact on, and relationship with, the heliosphere. For the 2004 workshop, we decided to give special emphasis to three topics, each of interest in its own right but also feeding into our overall picture of the Sun: small-scale energy release and fast particle acceleration and transport; large-scale disturbances, their origin and consequences; and radio pulsations as diagnostics of solar atmosphere plasma parameters. Radio observations offer a distinctive view of each of these phenomena, but each benefits also from a multi-wavelength perspective drawing particularly on findings from current space missions: RHESSI, TRACE, SoHO. We invited a group of speakers who together represent the multi-wavelength totality of these phenomena while concentrating on the role of radio wavelengths. They were encouraged to emphasize fundamentals and incorporate a tutorial element into their presentations, so that this book, growing out of the contributions to the Workshop, should have lasting value as well as discussing topics that generate excitement at the moment. In particular it highlights some of the areas of outstanding interest in solar radio astronomy in the run-up to the FASR facility.

The CESRA workshop 2004 was organised by a scientific committee composed of H. Aurass and G. Mann (Germany), M. Karlický (Czech Republic), K.-L. Klein (France), A. MacKinnon (United Kingdom), and A. Stepanov (Russia), in close cooperation with the Solar Physics Section of the European Physical Society (EPS) and the European Astronomical Society (EAS). The local organisers were A. MacKinnon, L. Bone, L. Fletcher, R. Galloway, J. Khan, E. Kontar, P. Mallik (University of Glasgow), and P. Wood (University of Saint Andrews). The workshop was held at Sabhal Mor Ostaig (Isle of Skye, Scotland). Carlotta Graham and the rest of the staff there worked hard to foster a very pleasant atmosphere that will long be

remembered by the participants. This meeting would not have been possible without the financial support of the *Royal Astronomical Society*, the *Highland Council*, the *British Council*, and the *Observatoire de Paris*. The Highland Council in particular provided support aimed at simplifying the journey to an outstanding, if slightly remote, location. Glasgow University's Departments of Physics and Astronomy and of Adult and Continuing Education provided various sorts of logistical support. The editors are indebted to the referees of the papers in this book. Among them were M. Aschwanden, G. Aulanier, I. Cairns, C. Chiuderi, A.G. Emslie, B. Roberts, and M. Velli.

Meudon and Glasgow,
February 2007

Karl-Ludwig Klein & Alexander MacKinnon
on behalf of the Scientific Organising Committee

Contents

Introduction: The High-energy Corona – Waves, Eruptions, Particles

<i>Karl-Ludwig Klein and Alexander MacKinnon</i>	1
1 Particle Acceleration During Flares	1
2 Large-scale Disturbances	5
3 Waves in Coronal Magnetic Field Structures and Plasma Diagnostics	9
4 Outlook	10
References	11

Part I Particle Acceleration During Flares

Magnetic Complexity, Fragmentation, Particle Acceleration and Radio Emission from the Sun

<i>Loukas Vlahos</i>	15
1 Introduction	15
2 Classical Models for Energy Release and Particle Acceleration	17
3 Energy Release and Particle Acceleration in Complex Magnetic Topologies	23
4 Radio Emission from Simple and Complex Magnetic Topologies	26
5 Summary	29
References	30

Review of Selected RHESSI Solar Results

<i>Brian R. Dennis, Hugh S. Hudson, and Säm Krucker</i>	33
1 Introduction	33
2 Instrumentation	34
3 Soft X-rays	35
4 Hard X-rays	43
5 Gamma Rays	51

6	Flare/CME Energetics	58
7	Conclusions	60
	References	62

RHESSI Results – Time for a Rethink?

	<i>J. C. Brown, E. P. Kontar, and A. M. Veronig</i>	65
1	Introduction	65
2	Imaging Discoveries and Issues	66
3	Temporal Domain Discoveries and Issues	71
4	Spectral Discoveries and Issues	74
5	Conclusions	79
	References	79

Small Scale Energy Release and the Acceleration and Transport of Energetic Particles

	<i>Hugh Hudson and Nicole Vilmer</i>	81
1	Introduction	81
2	Some New Observational Constraints	83
3	Acceleration and Propagation Mechanisms	94
4	Radio Emission Mechanisms	97
5	Conclusions	98
	Appendix	99
	References	99

Part II Large-scale Disturbances

Large-scale Waves and Shocks in the Solar Corona

	<i>Alexander Warmuth</i>	107
1	Introduction	107
2	The Physics of MHD Waves and Shocks	109
3	Signatures of Coronal Waves	112
4	Association with Type II Radio Bursts	119
5	The Physical Nature of Coronal Waves	120
6	Causes of Coronal Waves	127
7	Relevance of Coronal Waves to Other Areas of Solar Physics	130
8	Conclusions	132
	References	134

Energetic Particles Related with Coronal and Interplanetary Shocks

	<i>N. Gopalswamy</i>	139
1	Introduction	139
2	Type II Radio Bursts and Shocks	141

3	Type II Bursts and SEP Events	146
4	CME Interaction	148
5	CME Interaction and SEPs: Case Studies	149
6	SEP Intensity Variation: Statistical Study	152
7	SEP Intensity and Active Region Area	154
8	Discussion and Conclusions	156
	References	158

Particle Acceleration at the Earth’s Bow Shock

	<i>David Burgess</i>	161
1	Introduction	161
2	Electron Acceleration at the Quasi-perpendicular Bow Shock	164
3	Quasi-parallel Shocks and Acceleration	176
4	Transients at Shocks: Hot Flow Anomalies	185
5	Summary	188
	References	188

**On the Existence of Non-maxwellian Velocity Distribution
Functions in the Corona and their Consequences
for the Solar Wind Acceleration**

	<i>Milan Maksimovic</i>	191
1	Introduction	191
2	The Principal Features of Observed Solar Wind Electron Distribution Functions	192
3	Modelling the Consequence of Non-thermal Distributions in the Corona	196
4	Concluding Remarks	201
	References	201

**Recent Research: Large-scale Disturbances, their Origin
and Consequences**

	<i>Gottfried Mann and Bojan Vršnak</i>	203
1	Introduction	203
2	Topics	204
3	Take-off and Propagation of CMEs	204
4	Origin and Propagation of Shocks	208
5	The Role of Flares, CMEs, and Shocks in Particle Acceleration	209
6	Coronal and IP Plasma Diagnostics Offered by the Radio Emission	212
7	Conclusion	214
	Appendix: The List of Participants	215
	References	216

Part III Plasma of the Solar Corona

Quasi-periodic Pulsations as a Diagnostic Tool for Coronal Plasma Parameters

V. M. Nakariakov and A. V. Stepanov 221

1 Introduction 221

2 MHD Modes of a Plasma Cylinder 223

3 Standing Longitudinal Waves 231

4 Ballooning Modes 233

5 Damping 234

6 Loop Plasma Diagnostics (with Examples) 236

7 Equivalent Electric Circuit 242

8 Conclusions 247

References 248

Pulsating Solar Radio Emission

Alexander Nindos and Henry Aurass 251

1 Introduction 251

2 A Brief Overview of Radio Pulsations 253

3 Microwave pulsations 257

4 Decimetric Pulsating Emission 261

5 Metric Pulsating Emission 266

6 Summary and Future Work 273

References 275

Index 279