

Preface

The “5th Zermatt Symposium” under the title “Conditions and Impact of Star Formation: New Results with Herschel and Beyond”, held September 19th to 24th 2010 in Zermatt, continued the series of conferences on the dense interstellar medium, its physics and chemistry, and its relation to star formation. The Symposia in this series, scheduled approximately every 5 years, were originally organized by the Universität zu Köln alone, and now have incorporated not only the groups at the MPI für Radioastronomie and the Argelander Institut für Astronomie in Bonn, but also the astronomy group at the ETH Zürich, based on the extensive collaboration within projects such as the 3 m KOSMA telescope and the HIFI instrument on board Herschel.

Following the long-term tradition of the Zermatt Symposia on the Interstellar Medium, we stayed with the concept of a broad topical range, addressing all aspects from the large scales in time and space, *i.e.*, the cosmological evolution of star formation, down to the details of star formation in individual, local regions and to the micro-physics of molecule formation and excitation. The Symposium thus has given a rich review of the development of this research field as a whole over the last 5 years and hence has given a perspective rarely covered by other conferences. A particular stimulus for the field, of course, results from the exciting new observations with the Herschel Space Observatory, which therefore had a central role in the program: a good fraction of the invited talks covered the large Herschel Key Programs which represent a coordinated effort of the best experts in the field and involve a large fraction of the scientific community. The conference also provided a welcome occasion for getting together and discussing the exciting prospects of various future instrumentation and science projects.

The Symposium brought together more than 200 scientists from 16 countries. With 75 talks (13 invited reviews, 30 invited talks, and 32 contributed talks) and 85 posters, we enjoyed a rich week of presentations and many stimulating discussions after the talks and during the coffee breaks. The material compiled in these proceedings thus will provide a good summary and overview of the state of the field for the coming few years, although, as we all know, progress is rapid and in particular Herschel, being active for another 1 1/2 years to come, will continue to drastically impact many areas.

The Zermatt Symposia would not be what they are without the splendid environment of Zermatt. The Zermatterhof and the Burgergemeinde did their best in

supporting the conference by accommodating the participants in their town and by providing the great conference facilities at the Zermatterhof. We thank Rafael Biner and his staff for their pleasant and efficient support in the background and the Burgerpräsident Andreas Biner for the support by the Burgergemeinde. And, last not least, the fascinating scenery of the Zermatt valley invited for many nice walking and hiking excursions in perfect early autumn weather, obviously filled also with important scientific discussions, during the days of the conference.

The 5th Zermatt Symposium would not have been possible without the many helping hands from the organizing institutes, in particular from the local organizing committee. The conference secretaries, Steffie Krämer and Marianne Chiesi, did a tremendous job in holding the strings together in the local logistics and trying their best in addressing the many individual requests and demands of ever so innovative scientists. We also thank Frank Krämer for the perfect technical setup and support. They all did a great job together with the support from the CSM agency. A special “Thank You” therefore goes to them.

The members of the scientific organizing committee deserve special credit for helping us to put together an exciting program and inviting a suite of excellent speakers. At the end, the success of the symposium was, however, due to the active participation of all attendees, in particular those providing contributed talks and high-quality posters.

Finally, we want to thank the various financial sponsors of the conference,

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- the Internationale Stiftung Hochalpine Forschungsstationen Jungfraujoch und Gornergrat
- the Burgergemeinde Zermatt and the Gornergrat-Monte-Rosa-Bahn.

The selection for the location of the Zermatt Symposia was, of course driven by the location of the 3 m-KOSMA telescope on Gornergrat. The telescope has recently been moved to Yangbajing in Tibet and everyone who participated in the excursion to Gornergrat during the conference has seen the sad sight of an empty telescope dome up there. We nevertheless have an invitation by the Burgergemeinde to continue the series of Symposia in Zermatt. Or we may have the next conference at one or the other location of fascinating new telescopes. In any case, we are looking forward to an equally exciting next Symposium in about 5 years time.

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