Lithium in the cosmos

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Martin Asplund (Australian National Universiy, Canberra, Australia),
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Paolo Molaro (INAF – Osservatorio Astronomico di Trieste, Italy),
Monique Spite (GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot, France),
Elisabeth Vangioni (Institut d'Astrophyisque de Paris, France)

Local Organizing Committee

Piercarlo Bonifacio (GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot, France),
Fabio Iocco (),
Elisabeth Vangioni (Institut d'Astrophyisque de Paris, France)

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FOREWORD

Lithium is the lightest "metal", in astronomical parlance, and is also one of the nuclei that is most easily manifactured and destroyed, at relatively moderate temperatures. For this very reason the lithium abundances can provide us precious information on the history of matter. It is a remarkable coincidence that this conference is taking place almost thirty years after Monique and François Spite discovered the lithium plateau, suggesting that lithium could be used as a means to measure the cosmological baryonic density. The lithium content in stars offers the opportunity to place strong constraints on mixing and diffusion processes in stars. It is also remarkable that in spite of a very active research in this field, the observations confront us with puzzling results that are difficult to interpret theoretically. The aim of this meeting was to bring together all the researchers of the field to allow a fruitful exchange of ideas. To this extent the meeting was successful, many of us enjoyed many interesting informal discussions and profited of the exchange of ideas and information. Although on some topics it seems that the community is converging to a common notion (e.g. on ^{6}Li in halo stars), others remain strongly controversial (e.g. the primordial or near-primordial nature of the Spite plateau, or on "new physics" at the epoch of big bang). We have however a higly positive outlook on the field, although we have still a number of puzzles to solve, they are largely "new" problems, and we can safely say that we understand the lithium in the cosmos better now than thirty years ago.

We are grateful to all the participants that made this meeting into a success and a pleasant opportunity to discuss scientific issues. We wish to thank all of our sponsors and in particular the Institut d'Astrophyisique de Paris, that kindly hosted the event.

F. Iocco, P. Bonifacio and E. Vangioni