

Foreword

The series of SIDE meetings on *Symmetries and Integrability of Difference Equations* started in 1994. Since then it became a well-established and highly demanded platform for an international and interdisciplinary communication for researchers working in the area of discrete integrable systems, as well as for those just crossing this area. Indeed, methods and results of discrete integrable systems tend to play a role of a growing importance in various fields, from pure and numerical mathematics, through classical and quantum physics, to applications like biology, finance etc.

The previous international SIDE meetings took place in Esterel near Montreal, Canada (SIDE I, 1994), at the University of Kent in Canterbury, UK (SIDE II, 1996), in Sabaudia near Rome, Italy (SIDE III, 1998), and in Tokyo, Japan (SIDE IV, 2000). The Proceedings of these meetings were published as:

SIDE I: CRM Proceedings and Lecture Notes, 9. Eds. D.Levi, L.Vinet and P.Winternitz. Providence, RI: AMS, 1996.

SIDE II: London Mathematical Society Lecture Note Series, 255. Eds. P.A.Clarkson and F.W.Nijhoff. Cambridge University Press, 1999.

SIDE III: CRM Proceedings and Lecture Notes, 25. Eds. D.Levi and O.Ragnisco. Providence, RI: AMS, 2000.

SIDE IV: Journal of Physics A, Vol.34, Nr. 48 (Special Issue). Eds. J.Hietarinta, F.W.Nijhoff and J.Satsuma. 2001.

The present volume represents Proceedings of the most recent meeting of this series - SIDE V which took place in Giens near Toulon, France in June 21-28, 2002, and was chaired by C.-M.Viallet and J.Hietarinta.

The SIDE V meeting was special in that it formed the first in a series of two Euroconferences, funded and organised under the auspices of EURESCO (European Research Conferences). The two subsequent meetings SIDE V and SIDE VI, (the latter of which will take place in Kallvik, Finland in 2004), carried special emphasis on specific directions within the field of discrete integrability and difference equations. Thus, the SIDE V meeting in Giens had the more specialised title: *Discrete Painlevé Equations and the Solvability of Difference Equations*.

The topics covered by this conference included:

- analytic and algebraic aspects of difference equations,
- difference Galois theory,
- the Painlevé property and singularity analysis,
- growth and branching phenomena in rational mappings,

- difference analogues of the Painlevé equations,
- isomonodromic deformation theory,
- asymptotics of orthogonal polynomials,
- symmetries of difference equations,
- and applications to numerical analysis.

The collection of 20 papers which is presented here to the readers' attention is not a Proceedings in the usual sense of this word, in that it does not aspire to represent all the talks and short communications presented at the meeting. Rather, it is a refereed selection of contributions submitted by the researchers in response to a Call for papers issued soon after the meeting and addressed to the whole community affiliated to the subject of discrete integrability. Nevertheless, the resulting volume can be seen as a representative selection of topics covered by the conference. Moreover, it spans the issues of current research in the area, opening directions which are in the focus of interest for those involved in the further development of this fascinating and still young area.

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