Editors' preface for the special issue on Noncommutative Geometry

This is the first of the series of special issues of the Journal of Geometry and Physics that has been announced in volume 50. The purpose of this series is to collect a number of articles, mainly - but not exclusively - in the form of review papers, which may highlight some of the most recent developments in those areas of the interface between geometry and physics that are more relevant to the scope of the Journal. The series has no pretence to comprehensiveness.

The topic of the first special issue is noncommutative geometry. The papers we are presenting do not at all pretend to exhaust all the researches that are important in the field; we have only selected a few 'hot' topics in the current activity in noncommutative geometry and its applications.

In their first paper, Alain Connes and Matilde Marcolli review their recent work on quantum statistical mechanics of $\mathbb{Q}$-lattices and its relations with Galois theory and class field theory. In the second paper they report on quantum field theory and motivic categories touching on – among other issues – the Hopf algebra structure of the combinatorics of renormalization in quantum field theory and the Riemann-Hilbert correspondence.

Ludwik Dabrowski reports on the recent construction via spectral triples of non-commutative geometries on spaces coming from quantum groups, notably deformed spheres in two and three dimensions.

Klaas Landsman reviews Lie groupoids and Lie algebroids and explains their relevance both to physics and mathematics with special emphasis on their use in connections with deformation and geometric quantization.

Finally, Raimar Wulkenhaar discusses models of field theories on noncommutative spaces both at a classical and quantum field theory level, before passing to the recent proof of renormalization of non-commutative ϕ^4 theory.

We thank the authors of the papers of this issue for their special and successful effort to produce informative and readable articles, and we hope that our readers will appreciate this initiative. Other special issues will appear soon.

Ugo Bruzzo
Giovanni Landi
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