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Nota di contenuto	The phase of oscillations and prime numbers: classical and quantum / Michel Planat -- On self-similar finitely generated uniformly discrete (SFU-)sets and sphere packings / Jean-Louis Verger-Gaugry -- Nested quasicrystalline discretisations of the line / Jean-Pierre Gazeau, Zuzana Masakova, Edita Pelantova -- Hopf algebras in renormalization theory: locality and Dyson-Schwinger equations from Hochschild cohomology / Christoph Bergbauer, Dirk Kreimer -- Fonction et matrices aleatoires / Emmanuel Royer -- Some recent applications of Kloostermania / Philippe Michel -- Introduction a la correspondance de Langlands locale / Ariane Mezard.
Sommario/riassunto	There is a rich and historical relationship between theoretical physics and number theory. This volume presents a selection of problems which are currently in full development and inspire a lot of research going on. Each of the seven contributions starts with an introductory survey which makes it possible even for non-specialists to understand the results and to gain an idea of the great variety of subjects and techniques used. Topics covered are: phase locking in oscillating

systems, crystallography, Hopf algebras and renormalisation theory, Zeta-function and random matrices, Kloosterman sums and the local Langlands correspondence. Intended for research mathematicians and theoretical physicists as well as graduate students, this volume gives an overview of recent developments in an exciting subject crossing several disciplines.
