







Special Issue Reprint

Quantum Chaos—Dedicated to Professor Giulio Casati on the Occasion of His 80th Birthday

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Ouantum chaos, or wave chaos, has relatively recently received a revival, with much interest and attention in many branches of physics, theoretical, experimental and computational. It encompasses a broad range of topics, from various few-body and many-body dynamical systems to nano and mesoscopic systems, condensed matter physics, molecular and atomic physics, quantum field theories, high-energy physics, string theories and even cosmology. It is also relevant in many other wave systems, namely electromagnetic waves, acoustic waves, elastic waves, water surface waves, seismic waves and gravitational waves. This Special Issue contains 36 original research papers and 2 review papers by many pioneers and leaders in quantum chaos and classical chaos, and by several authors of the younger generation. The contents clearly reflect the importance and broadness of this scientific field, offering new contributions to progress in almost all of the abovementioned topics. We are thus witnessing fundamental progress in understanding quantum few-body as well as many-body systems, from the dynamical aspects to statistical aspects, which also involves issues in the statistical physics of quantum systems, both in equilibrium as well as in nonequilibrium states. The richness of the scientific content of this unique Special Issue underlines the important contributions by Professor Giulio Casati over more than five decades, thereby honoring him on the occasion of his 80th birthday and thanking him for his fundamental work on classical and quantum chaos and much more.





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