Derivations on Functional and Harmonic Analysis

Hindawi

CALL FOR PAPERS

In 1955, Singer and Wermer initiated the studies of range inclusion results for derivations on Banach algebras. Many questions on derivations have been considered during the development of the ring theory, specially the relationships between derivations and the structure of rings, and they were already generalized in several directions. Derivations may serve as the generators of reversible evolutions of a physical system, say, if this is modelled by a Banach algebra. Not only historically, this point of view gave a strong impetus to the investigation of derivations and of how their properties relate to the structure of Banach algebras.

This special issue is focused on derivations, related to functional analysis, harmonic analysis, dynamical systems, and so forth. Articles containing applications to the real-world situations are particularly welcome.

The authors are invited to submit original research papers as well as review articles that will stimulate the continuing efforts in investigations of that issue, its applications, and related problems.

Potential topics include but are not limited to the following:

▶ Automatic continuity of derivations on Banach algebras and C*-algebras
▶ Shock wave dynamics: derivations and related topics
▶ Image of derivations
▶ Derivations on Lie algebras and related topics
▶ Derivation problem on Banach algebras and solutions
▶ Amenability and derivations on Banach algebras
▶ Characterizing of derivations by local properties
▶ Relationships between derivations and Jordan (Lie) structure of rings or Banach algebras
▶ Derivations and commutativity of rings or algebras
▶ Characterizing the first Hochschild cohomology of Banach algebras and related topics
▶ Generalized notions for derivations
▶ On approximate derivations
▶ Derivations on Fourier algebras and Fourier-Stieltjes algebras
▶ Functional spaces and derivations
▶ Derivation, expansion, and differentiation
▶ Applications of derivations in dynamical systems
▶ Jordan derivations in rings and applications
▶ Stability and hyperstability of derivations on Banach algebras
▶ Jordan triple derivations on Banach algebras
▶ Higher derivations

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