Vladikavkaz Scientific Center of the   **Russian Academy of Sciences**

**North Caucasus Center for Mathematical Research
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International Seminar
"Operator Theory, Differential Equations and their Applications"

Seminar Chairmen: Prof. Anatoly G. Kusraev, Prof. Marat A. Pliev
Seminar Secretary: PhD Batradz B. Tasoev

October 18, 12 AM (UTC+3)

Derivations with Values in Noncommutative Symmetric Spaces

prof. Jinghao Huan
Harbin Institute of Technology, Harbin China.

In 2012, Bader, Gelander and Monod obtained a fixed point theorem for L_1-spaces. As a consequence, they resolved the long-standing derivation problem for noncommutative L_1-spaces. However, their method does not have any chance to deliver an answer to the derivation problem for more general bimodules (as mentioned in their paper). In our recent work, we provide a new proof for the L_1-derivation theorem, which does not rely on the weak compactness of a subset in L_1. More generally, our main result identifies the class of symmetric function spaces E for which every derivation $\delta: A \to E(M, \tau)$ is necessarily inner for each C∗-subalgebra A in the class of all semifinite von Neumann algebras M as those with the Levi property. This talk is based on a joint work with Fedor Sukochev.

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The seminar is organized by North Caucasus Center for Mathematical Research of the Vladikavkaz Scientific Center of the RAS jointly with Southern Mathematical Institute of the Vladikavkaz Scientific Center of the RAS.

If you have any questions please don't hesitate to contact the secretary of the seminar Batradz Tasoev at seminar_otde@mail.ru