Vladikavkaz Scientific Center of the



Russian Academy of Sciences



North Caucasus Center for Mathematical Research of the Vladikavkaz Scientific Center of the RAS

Southern Mathematical Institute of the Vladikavkaz Scientific Center of the RAS



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

December 1, 3 PM (UTC+3)

On Luxemburg's problem

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In 1967, W.A.J. Luxemburg raised a problem: Determine all the extreme points of the set of elements majorised by an integrable function on an arbitrary finite measure space. The case of atomless measure space has been resolved by Ryff. However, the general case remained elusive. During the past decades, several authors have also worked on the non-commutative version of Ryff's result. We provide a complete resolution of Luxemburg's problem, which unifies Ryff's result and the classic result for vectors with significant extension. Moreover, we obtain a noncommutative version of this result. This joint work (Dauitbek, Huang, S.) is published in Advances in Mathematics 2020.

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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 <u>seminar_otde@mail.ru</u>