

Quantized domains and matrix inductive limits

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The classical tired theory of locally convex spaces with its matrix or operator envelope looks like quite fresh and attractive. It is time to revive Dieudonné-Schwartz type theorems of 1960-th giving for them an elegant matrix tinge. The inductive limits of operator spaces is the main tool in the quantized moment problems. The quantized operator valued measures can be treated as matrix contractive and matrix positive linear mappings between certain inductive limits of operator spaces. The space of all matrix continuous linear mappings between inductive limits of operator spaces in its general setting will be a central object of our talk. The algebra of all noncommutative continuous functions over a quantized domain is converted into a local operator space of all matrix continuous linear operators furnished with a \mathfrak{S} -matrix topology. Further, the inductive limits of operator spaces is used to introduce local trace class operators on a quantized domain, and we propose the dual realization theorem for a complete barreled operator space, which extends Blecher's result on the dual realization for a complete operator space.

In the first part of the talk we shall solve simple exercises introducing the main objects of quantized functional analysis such as absolutely matrix convex set, matrix duality, absolute operator polars, matrix seminorms and so on. That especially will be useful for students being an additional exercises for their Bourbaki studies. In the next part we shall discuss some new results.