

# A theorem of Beurling-Lax type for Hilbert spaces of functions analytic in the unit ball

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In the lecture we report on joint work with Daniel Alpay (Ben Gurion University of the Negev, Beer-Sheva, Israel) and Jim Rovnyak (University of Virginia, Charlottesville, VA, U. S. A.)

Schur multipliers on the unit ball are operator-valued functions for which the  $N$ -variable Schwarz-Pick kernel is nonnegative. The coefficient spaces are assumed to be Pontryagin spaces having the same negative index. The associated reproducing kernel Hilbert spaces are characterized in terms of generalized difference-quotient transformations. If time permits the connection between invariant subspaces and factorization is established.