



Universität Stuttgart



# Kolloquium des Fachbereichs Mathematik

Es spricht am Mittwoch, 10. Juli 2019 um 16:00 Uhr

**Professor Ilya Spitkovsky**

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zum Thema:

**“Factorization problem: the peculiarities of the matrix almost periodic case”**

Abstract: Factorization of (matrix) functions is a key ingredient in the spectral theory of Toeplitz and Wiener-Hopf operators, singular integral equations, inverse scattering, etc. Invertibility is always necessary for factorability, with the converse being true for some functional classes (Wiener and Douglas algebras, with the continuous functions in between) but not in general (piecewise continuous case, for example). As a rule though, the factorization criteria in the matrix setting are usually quite straightforward modifications of their scalar counterparts.

The situations changes drastically in the almost periodic (AP) case. While scalar AP functions are factorable if and only if they are invertible, this is far from being so for matrix AP functions, even in the triangular 2-by-2 case. Moreover, the factorization criterion for such matrix functions is still unknown!

We will discuss some particular cases in which more can be said and, time permitting, mention more specific open problems. For functions in the Wiener algebra (the classical Gohberg-Krein result) factorability is equivalent to.

Der Vortrag findet im Sitzungssaal 8.122 der Fakultät Mathematik und Physik, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen statt. Interessenten sind herzlich eingeladen!

Die Dozentinnen und Dozenten des Fachbereichs Mathematik