



Kolloquium des Instituts für Mathematik

Wir laden ein zu dem Vortrag

Wiener algebras and trigonometric series in a coordinated fashion

Prof. Dr. Elijah Lifliyand
(Bar-Ilan University, Israel)

Let $W_0(\mathbb{R})$ be the Wiener Banach algebra of functions representable by the Fourier integrals of Lebesgue integrable functions. It is proven in the paper that, in particular, a trigonometric series $\sum_{k=-\infty}^{\infty} c_k e^{ikt}$ is the Fourier series of an integrable function if and only if there exists a $\phi \in W_0(\mathbb{R})$ such that $\phi(k) = c_k, k \in \mathbb{Z}$. If $f \in W_0(\mathbb{R})$, then the piecewise linear continuous function ℓ_f defined by $\ell_f(k) = f(k), k \in \mathbb{Z}$, belongs to $W_0(\mathbb{R})$ as well. Moreover, $\|\ell_f\|_{W_0} \leq \|f\|_{W_0}$. Similar relations are established for more advanced Wiener algebras. These results are supplemented by numerous applications. In particular, new necessary and sufficient conditions are proved for a trigonometric series to be a Fourier series and new properties of W_0 are established. This is a joint work with R. Trigub.

Ort: Seminarraum Mathematik R1 (Hilbert)
Ratzeburger Allee 160, 23562 Lübeck
Tel.: (0451) 3101-6002 (Sekretariat)

Zeit: Donnerstag, 06.02.2020
17 Uhr c.t.

gez. Dr. Yuri Kolomoitsev