# İSTANBUL ANALYSIS SEMINARS

## TAME FRÉCHET SPACES

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**Abstract:** We say that the pair $(E, F)$, for Fréchet spaces $E$ and $F$, is called a ***tame pair*** if there exists an increasing function $S : \mathbb{N} \to \mathbb{N}$ such that for any linear operator $T : E \to F$, we have $\pi_T(k) \leq S(k)$ when $k$ is large enough, where $\pi_T(k)$ is the characteristic of continuity map of $T$. We show that, for Köthe spaces, the pair $(\lambda(A), \lambda(B))$ is tame if and only if the family of quasidiagonal operators from $\lambda(A)$ to $\lambda(B)$ satisfies the tameness criteria. We give tameness characterization for power series spaces of finite and infinite types. It turns out that if $\alpha$ or $\beta$ is stable, then the tameness of the pair $(\Lambda_\infty(\alpha), \Lambda_\infty(\beta))$ is equivalent to boundedness. We also characterize the tameness of mixed type power series spaces.

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