İSTANBUL ANALYSIS SEMINARS

MULTIRECTANGULAR INVARIANTS FOR MIXED F-, DF-POWER SERIES SPACES

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Abstract: We consider problems on isomorphic classification for the class of mixed F-, DF-power series spaces

$$H(\lambda, a) = \lim_{p\to\infty} \operatorname{proj} \left(\lim_{q\to\infty} \operatorname{ind}\Big(l_1\big(a_i(p,q)\big)\Big)\right), \tag{1}$$

where $a_i(p,q) = \exp((-\frac{1}{p} - q\lambda_i)a_i)$ for every $p, q \in \mathbb{N}$, and $\lambda = (\lambda_i)_{i\in\mathbb{N}}$, $a = (a_i)_{i\in\mathbb{N}}$ are sequences of positive numbers.

The case of $a_i(p,q) = \exp((p - \lambda_i q)a_i)$ was investigated in [1], where compound invariants were used to show that *the m-rectangle characteristics*

$$\mu_m^{(\lambda,a)}(\delta, \epsilon; \tau, t) \;=\; \left| \bigcup_{k=1}^{m} \{i \;:\; \delta_k < \lambda_i \le \epsilon_k \;,\; \tau_k < a_i \le t_k\} \right|,$$

defined for $\delta = (\delta_k)$, $\epsilon = (\epsilon_k)$, $\tau = (\tau_k)$ and $t = (t_k)$ such that $0 \le \delta_k < \epsilon_k \le 2$, $0 < \tau_k < t_k < \infty$, where $k = 1, 2, \cdots, m$, is an invariant on the corresponding class of spaces. Introducing new compound invariants, we show that the m-rectangle characteristics are invariants on the class of spaces of the kind (1).

The talk is based on a joint work with V.P. Zakharyuta.

References

[1] P.A. Chalov, T. Terzioğlu, V.P. Zahariuta, "Compound invariants and mixed F-, DF-power spaces," *Canad. J. Math.* **50** (1998), no. 6, 1138-1162.

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