MULTI RECTANGULAR INVARIANTS FOR MIXED F-, DF-POWER SERIES SPACES

Can Deha KARIKSIZ
Sabancı University
Faculty of Engineering and Natural Sciences

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

\[ H(\lambda, a) = \lim_{p \to \infty} \text{proj} \left( \lim_{q \to \infty} \text{ind} \left( l_1(a_i(p, q)) \right) \right) \tag{1}, \]

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

\[ \mu^{(\lambda, a)}(\delta, \epsilon; \tau, t) = \left\lfloor \bigcup_{k=1}^{m} \{ i : \delta_k < \lambda_i \leq \epsilon_k, \tau_k < a_i \leq t_k \} \right\rfloor, \]

defined for \( \delta = (\delta_k), \epsilon = (\epsilon_k), \tau = (\tau_k) \) and \( t = (t_k) \) such that \( 0 \leq \delta_k < \epsilon_k \leq 2, 0 < \tau_k < t_k < \infty \), where \( k = 1, 2, \ldots, m \), 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