**COMPOUND INVARIANTS AND MIXED F-, DF-POWER SPACES**

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**ABSTRACT.** The problems on isomorphic classification and quasiequivalence of bases are studied for the class of mixed F-, DF-power series spaces, i.e. the spaces of the following kind

\[ G(\lambda, a) = \lim_{p \to \infty} \text{proj} \left( \lim_{q \to \infty} \text{ind} \left( t_1 \left( a_0(p, q) \right) \right) \right), \]

where \( a_i(p, q) = \exp \left( (p - \lambda q)a_i \right), p, q \in \mathbb{N}, \) and \( \lambda = (\lambda_i)_{i \in \mathbb{N}}, a = (a_i)_{i \in \mathbb{N}} \) are some sequences of positive numbers. These spaces, up to isomorphisms, are basis subspaces of tensor products of power series spaces of F- and DF-types, respectively. The \( m \)-rectangle characteristic \( \mu_m^\tau(\delta, \varepsilon; \tau, t), m \in \mathbb{N} \) of the space \( G(\lambda, a) \) is defined as the number of members of the sequence \( (\lambda_i, a_i)_{i \in \mathbb{N}} \) which are contained in the union of \( m \) rectangles \( P_k = (\delta_k, \varepsilon_k) \times (\tau_k, \tau_k), k = 1, 2, \ldots, m \). It is shown that each \( m \)-rectangle characteristic is an invariant on the considered class under some proper definition of an equivalency relation. The main tool are new compound invariants, which combine some version of the classical approximative dimensions (Kolmogorov, Pelczynski) with appropriate geometrical and interpolational operations under neighborhoods of the origin (taken from a given basis).

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