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Section:

8. Analysis

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Some classes of infinitely differentiable functions
For nonquasianalytical Carleman classes conditions on the sequences $\{\hat{M}_n\}$ and $\{M_n\}$ are investigated which guarantee the existence of a function in $C_J\{\hat{M}_n\}$ that $u^{(n)}(a) = b_n, \quad |b_n| \leq K^{n+1}M_n, \quad n = 0, 1, ..., \quad a \in J$.
Conditions for the coincidence of the sequences $\{\hat{M}_n\}$ and $\{M_n\}$ are analyzed. Some still unknown classes of such sequences are indicated and the construction of the required function is suggested.
The problem of the existence of a function in the space $W^\infty\{a_\alpha, p\}_{(G)}$ with a given trace at the boundary is considered.
Moreover, conditions for the existence of a function from the space for a one-dimensional domain and a multidimensional strip are obtained.
In some cases the derived sufficient conditions for the trace extension are necessary as well. The construction method of the required function is described.