

Problems related to solid sequence spaces derived from an infinite matrix and a solid sequence space

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Let s denote the vector space of all scalar sequences. If A is an infinite matrix with non-negative entries and λ is a solid subspace of s , then $sol - A^{-1}(\lambda) = \{x \in s : A|x| \in \lambda\}$ is also a solid subspace of s which, under certain conditions on A and λ , inherits a solid topological vector space topology from any such topology on λ .

Letting $\Lambda_0 = \lambda$ and $\Lambda_m = sol - A^{-1}(\Lambda_{m-1})$ for $m > 0$, Polat and Peter [1] derived an infinite sequence $\Lambda_0, \Lambda_1, \Lambda_2, \dots$ of solid subspaces of s from the inputs A and λ . For A and λ confined to certain classes, they asked many questions about this derived sequence. In this talk, we answer a few of them.

References

- [1] P. D. Johnson Jr and F. Polat, Problems in matricially derived solid Banach sequence spaces, Turk J Math (2016) 40: 1025 – 1037.