

REFERENCES

1. A. Alexiewicz, On Sequences of Operations II, *Studia Math.*, 11 (1950), 200-236.
2. P. Antosik, On the Mikusinski Diagonal Theorem, *Bull. Acad. Polon. Sci.*, 19 (1971), 305-310.
3. P. Antosik, A Generalization of the Diagonal Theorem, *Bull. Acad. Polon. Sci.*, 20 (1972), 373-377.
4. P. Antosik, Mappings from L-groups into Topological Groups I, *Bull. Acad. Polon. Sci.*, 21 (1973), 145-153.
5. P. Antosik, Mappings from L-groups into Topological Groups II, *Bull. Acad. Polon. Sci.*, 21 (1973), 155-160.
6. P. Antosik, Sur les suites d'applications, *C. R. Acad. Sci.*, Paris, 287 (1978), 75-77.
7. P. Antosik, Mappings from convergence groups into quasi-normed groups, *Serdica*, 3 (1977), 176-179.
8. P. Antosik, Permutationally convergent matrices, *Serdica*, 3 (1977), 198-205.
9. P. Antosik, A Diagonal Theorem for Nonnegative Matrices and Equicontinuous Sequences of Mappings, *Bull. Acad. Polon. Sci.*, 24 (1976), 955-959.
10. P. Antosik, On uniform boundedness of families of mappings, *Proceedings of the Conference on Convergence Spaces*, Szary, 1979, 2-16.
11. P. Antosik, On convergences in sequence spaces, *Proceedings of the Conference on Generalized Functions and their Applications*, Moscow, 1980.
12. P. Antosik, J. Mikusinski, and R. Sikorski, *Theory of Distributions*, PWN-Warsaw, 1973.
13. P. Antosik and C. Swartz, A Theorem on Matrices and its Applications in Functional Analysis, *Studia Math.*, 77 (1984), 197-205.
14. P. Antosik and C. Swartz, The Nikodym Boundedness Theorem and the Uniform Boundedness Principle, *Proceedings of the Workshop on the Measure Theory and its Applications*, Sherbrooke, Quebec, 1982, Springer Lecture Notes on Mathematics, 1033, 36-42.
15. P. Antosik and C. Swartz, The Schur and Phillips Lemmas for Topological Groups, *J. Math. Anal. Appl.*, 98 (1984), 179-187.
16. P. Antosik and C. Swartz, *Matrix Methods in Analysis*, preprint.
17. P. Antosik and C. Swartz, The Vitali-Hahn-Saks Theorem for Algebras, *J. Math. Anal. Appl.*, to appear.
18. S. Banach, Sur les operations dans les ensembles abstraits, *Fund. Math.* 3 (1922), 133-181.

19. S. Banach and H. Steinhaus, Sur le principe de la condensation de singularites, *Fund. Math.* 9 (1927), 50-61.
20. S. Banach, Theorie des Operations Lineaires, Warsaw, 1932.
21. C. Bessaga and A. Pelczynski, On Bases and Unconditional Convergence of Series in Banach Spaces, *Studia Math.*, 17 (1958), 151-164.
22. Bourbaki, Espaces Vectoriels Topologiques, IV-V, Hermann, Paris, 1976.
23. J. Brooks, Sur les suites uniformement convergentes dans un espace de Banach, *C. R. Acad. Sci., Paris*, 274 (1974), A1037-1040.
24. J. Brooks and R. Jewett, On Finitely Additive Vector Measures, *Proc. Nat. Acad. Sci., U.S.A.*, 67 (1970), 1294-1298.
25. J. Brooks and J. Mikusinski, On Some Theorems in Functional Analysis, *Bull. Acad. Polon. Sci.*, 18 (1970), 151-155.
26. J. Burzyk, C. Klis, and Z. Lipecki, On Metrizable Abelian Groups with a Certain Summability Property, *Colloq. Math.*, to appear.
27. J. Burzyk and P. Mikusinski, On Normability of Semigroups, *Bull. Acad. Polon. Sci.*, 28 (1980), 33-35.
28. C. Constantinescu, On Nikodym's Boundedness Theorem, *Libertas Math.*, 1 (1981), 51-73.
29. R. Darst, On a Theorem of Nikodym with Applications to Weak Convergence and von Neumann Algebras, *Pacific J. Math.*, 23 (1967), 473-477.
30. M. Day, Normed Linear Spaces, Springer-Verlag, Berlin, 1973.
31. P. Dierolf, Theorems of the Orlicz-Pettis Type for Locally Convex Spaces, *Manuscripta Math.*, 20 (1977), 73-94.
32. P. Dierolf and C. Swartz, Subfamily-summability for Precompact Operators and Continuous Vector-valued Functions, *Rev. Roumane. Math. Pures. Appl.*, 26 (1981), 731-735.
33. J. Diestel and B. Faires, On Vector Measures, *Trans. Amer. Math Soc.*, 198 (1974), 253-271.
34. J. Diestel and J. Uhl, Vector Measures, Amer. Math. Soc. Surveys #15, Providence, 1977.
35. J. Dieudonne, History of Functional Analysis, North-Holland, Amsterdam, 1981.
36. L. Drewnowski, Equivalence of Brooks-Jewett, Vitali-Han-Saks, and Nikodym Theorems, *Bull. Acad. Polon. Sci.*, 20 (1972), 725-731.
37. L. Drewnowski, Uniform Boundedness Principle for Finitely Additive Vector Measures, *Bull. Acad. Polon. Sci.*, 21 (1973), 115-118.

38. N. Dunford and J. Schwartz, Linear Operators I, Interscience, N. Y., 1958.
39. H. Hahn, Über Folgen linearen Operationen, Monatsch. Fur Math. und Phys., 32 (1922), 1-88.
40. R. Haydon, A non-reflexive Grothendieck space that does not contain ℓ^∞ , Israel J. M., 40 (1981), 65-73.
41. E. Hewitt and K. Stromberg, Real and Abstract Analysis, Springer-Verlag, N. Y., 1965.
42. T. H. Hildebrandt, On Uniform Limitedness of Sets of Functional Operations, Bull. Amer. Math. Soc., 29 (1923), 309-315.
43. J. Howard, The Comparison of an Unconditionally Converging Operator, Studia Math., 33 (1969), 295-298.
44. N. J. Kalton, Spaces of Compact Operators, Math. Ann., 208 (1974), 267-278.
45. C. Klis, An Example of Noncomplete Normed (K)-Space, Bull. Acad. Polon. Sci., 26 (1978), 415-420.
46. G. Kothe, Topological Vector Spaces I, Springer-Verlag, N. Y., 1969.
47. G. Kothe, Topological Vector Spaces II, Springer-Verlag, N. Y., 1979.
48. I. Labuda and Z. Lipecki, On Subseries Convergent Series and m-Quasi Bases in Topological Linear Spaces, Manuscripta Math., 38 (1982), 87-98.
49. J. Lindenstrauss and L. Tzafriri, Classical Banach Spaces I, Springer-Verlag, N. Y., 1977.
50. I. Maddox, Elements of Functional Analysis, Cambridge Univ. Press, 1970.
51. S. Mazur and W. Orlicz, Über Folgen linearen Operationen, Studia Math., 4 (1933), 152-157.
52. S. Mazur and W. Orlicz, Sur les espaces metriques lineaires II, Studia Math., 13 (1953), 137-179.
53. J. Mikusinski, A Theorem on Vector Matrices and its Applications in Measure Theory and Functional Analysis, Bull. Acad. Polon. Sci., 18 (1970), 193-196.
54. J. Mikusinski, On a Theorem of Nikodym on Bounded Measures, Bull. Acad. Polon. Sci., 19 (1971), 441-443.
55. W. Orlicz, Beitrage zur Theorie der Orthogonalentwicklungen II, Studia Math., 1 (1929), 241-255.
56. E. Pap, Funkcionalna analiza, Institute of Mathematics, Novi Sad, 1982.

57. E. Pap, Contributions to Functional Analysis on Convergence Spaces, General Topology and its Relations to Modern Analysis and Algebra V, Prague, 1981.
58. A. Pelczynski, On Strictly Singular and Strictly Cosingular Operators, Bull. Acad. Polon. Sci., 13 (1965), 31-36.
59. B. J. Pettis, On Integration in Vector Spaces, Trans Amer. Math. Soc., 49 (1938), 277-304.
60. R. Phillips, On Linear Transformations, Trans. Amer. Math. Soc., 48 (1940), 516-541.
61. A Pietsch, Nukleare Lokalkonvexe Raume, Akademic-Verlag, Berlin, 1965.
62. A. P. Robertson, Unconditional Convergence and the Vitali-Hahn-Saks Theorem, Bull. Soc. Math., France, Suppl. Mem., 31-32 (1972), 335-341.
63. S. Rolewicz, Metric Linear Spaces, Polish Scien. Publ., Warsaw, 1972.
64. H. Rosenthal, On Complemented and Quasi-complemented Subspaces of Quotients of $C(S)$ for Stonian S , Proc. Nat. Acad. Sci., U.S.A., 59 (1968), 361-364.
65. H. Rosenthal, On Relatively Disjoint Families of Measures with Some Applications to Banach Space Theory, Studia Math., 37 (1970), 13-36.
66. S. Saxon, Some normed barrelled spaces which are not Baire, Math. Ann., 209 (1974), 153-160.
67. W. Schachermayer, On Some classical Measure-Theoretic Theorems for non-sigma-complete Boolean Algebras, Dissert. Math., to appear.
68. J. Sember, On Summing Sequences of 0's and 1's, Rocky Mt. J. Math., 11 (1981), 419-425.
69. C. Swartz, Applications of the Mikusinski Diagonal Theorem, Bull. Acad. Polon. Sci., 26 (1978), 421-424.
70. C. Swartz, A Generalized Orlicz-Pettis Theorem and Applications, Math. Zeit., 163 (1978), 283-290.
71. C. Swartz, Orlicz-Pettis Topologies in Function Spaces, Publ. de L'Inst. Math., 26 (1979), 289-292.
72. C. Swartz, A Lemma of Labuda as a Diagonal Theorem, Bull. Acad. Polon. Sci., 30 (1982), 493-497.
73. C. Swartz, The Schur Lemma for Bounded Multiplier Convergent Series, Math. Ann., 263 (1983), 283-288.

74. C. Swartz, An Abstract Orlicz-Pettis Theorem, Bull. Acad. Polon. Sci., to appear.
75. C. Swartz, Continuity and Hypocontinuity for Bilinear Maps, Math. Zeit., 186 (1984), 321-329.
76. C. Swartz, The Schur and Hahn Theorems for Operator Matrices, Rocky Mountain J. Math., to appear.
77. G. E. F. Thomas, L'integration par rapport a une mesure de Radon vectorielle, Ann. Inst. Fourier, 20 (1970), 55-191.
78. I. Tweddle, Unconditional Convergence and Vector-Valued Measures, J. London Math. Soc., 2 (1970), 603-610.
79. A. Wilansky, Modern Methods in Topological Vector Spaces, McGraw-Hill, N. Y., 1978.
80. K. Yosida, Functional Analysis, Springer-Verlag, N.Y., 1966.

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NOTATION

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