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Two-point support hypergroups of compact type; 5.5 The cosh hypergroup; 5.6 Associated pairs of moment functions; 6. Spectral analysis and synthesis on polynomial hypergroups; 6.1 Spectral analysis and spectral synthesis on hypergroups; 6.2 Basic concepts and facts; 6.3 Spectral analysis on polynomial hypergroups in a single variable; 6.4 Exponential polynomials on polynomial hypergroups in a single variable  
6.5 Spectral synthesis on polynomial hypergroups in a single variable  
6.6 Spectral analysis and spectral synthesis on multivariate polynomial hypergroups; 6.7 Spectral analysis and moment functions; 7. Spectral analysis and synthesis on Sturm-Liouville hypergroups; 7.1 Exponential monomials on Sturm-Liouville hypergroups; 7.2 Linear independence of special exponential monomials; 7.3 Spectral analysis on Sturm-Liouville hypergroups; 8. Moment problems on hypergroups; 8.1 The moment problem in general; 8.2 Uniqueness on polynomial hypergroups; 8.3 The case of Sturm-Liouville hypergroups  
8.4 An approximation result  
9. Special functional equations on hypergroups; 9.1 The sine functional equation on polynomial hypergroups; 9.2 The cosine functional equation on polynomial hypergroups; 9.3 The Levi-Civita functional equation; 10. Difference equations on polynomial hypergroups; 10.1 Introduction; 10.2 Difference equations with 1-translation; 10.3 Difference equations with general translation; 11. Stability problems on hypergroups; 11.1 Stability of exponential functions on hypergroups; 11.2 Stability of additive functions on hypergroups  
11.3 Superstability of a mixed-type functional equation

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## Sommario/riassunto

The theory of hypergroups is a rapidly developing area of mathematics due to its diverse applications in different areas like probability, harmonic analysis, etc. This book exhibits the use of functional equations and spectral synthesis in the theory of hypergroups. It also presents the fruitful consequences of this delicate "marriage" where the methods of spectral analysis and synthesis can provide an efficient tool in characterization problems of function classes on hypergroups. This book is written for the interested reader who has open eyes for both functional equations and hypergroups, and

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