

## Spectral analysis and synthesis on an infinite hypergroup join

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**Abstract.** Spectral analysis and spectral synthesis have been proved for arbitrary varieties over polynomial hypergroups and for finite dimensional varieties over arbitrary commutative hypergroups. In this paper, we show that spectral analysis and synthesis hold for arbitrary varieties over an infinite hypergroup join studied by R. I. Jewett and H. Zeuner. The method may be applied to prove spectral synthesis for other types of infinite joins.

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