Harmonic analysis and approximation in Hardy spaces in 2 and 3 real dimensions

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Abstract: We describe some approximation problems in Hardy spaces, of which the solutions are expressible in terms of operator theory. We explain the standard two-dimensional situation in detail, and then describe an extension to three dimensions using the Hardy spaces defined by E. Stein, which consist of gradients of real harmonic functions. This gives an approach to approximate recovery problems for harmonic functions from incomplete boundary values.

This is joint work with B. Atfeh, L. Baratchart and J. Leblond.

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