Bernoullis Tafelrunde

Graduate Student Seminar

Monday October 5th 12:15-13:00
Virtual Seminar

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Fourier interpolation problems and modular forms

Abstract

Any sufficiently well-behaved function in Euclidean space can be completely recovered from its Fourier transform. Under which conditions and in which sense does this remain true if we know the function and its Fourier transform only on subsets of their respective domains? When is there a nice formula that expresses all values of the function in terms of such partial information and when is it non-redundant? I will explain that such formulas exist and can be written down explicitly in special cases where there is a hidden connection to the theory of modular forms.