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Sharp  $L^p$  estimates for oscillatory integral operators of arbitrary signature

The restriction problem in harmonic analysis asks for  $L^p$  bounds on the Fourier transform of functions defined on curved surfaces. In this talk, we will present improved restriction estimates for hyperbolic paraboloids, that depend on the signature of the paraboloids. These estimates still hold, and are sharp, in the variable coefficient regime. This is joint work with Jonathan Hickman.