The construction of Green currents and singular theta lifts for unitary groups

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In this talk we describe how singular theta lifts for the reductive dual pair $\mathrm{U}(p,q) \times \mathrm{U}(1,1)$ can be employed to construct two different kinds of Green forms for codimension q-cycles in Shimura varieties associated to unitary groups. In particular, we establish an adjointness result between the singular theta lift and the Kudla-Millson theta lift and discuss further applications in the context of the Kudla Program.

This is joint work with Eric Hofmann.