

## Construction of the global parametrix for the kissing polynomials

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**08.03****Andrew Celsus***(University of Cambridge, UK)***Time:** Wednesday 24.07., 11:30 - 12:00, Room HS 3

**Abstract:** When trying to implement the Deift-Zhou method of steepest descent to recover asymptotics of orthogonal polynomials, one needs to construct solutions to a model Riemann-Hilbert problem (RHP). When studying a certain family of orthogonal polynomials with complex weights known as the kissing polynomials, the model problem does not possess the same symmetries that one usually encounters when dealing with positive weight functions. As such, the construction of the global parametrix, which is the solution of this model problem, requires a different approach. The goal of this talk is to outline the construction of global parametrix which arises when one is trying to study asymptotics of the kissing polynomials. *Joint work with Guilherme Silva of the University of Michigan.*