

ORTHOGONAL QUANTUM INVARIANTS

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This talk is about the AJ conjecture, which proposes an orthogonality between two knot invariants, which only manifests after quantization.

On one side is the celebrated coloured Jones polynomial, which is built from the diagrammatics of certain braided tensor categories. On the other side is the A-polynomial, which is built from the algebraic geometry of character varieties. The crucial quantization is done using a defect version of skein algebras, which deform functions on character varieties and rely on the very same diagrammatics used to define the coloured Jones.