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## McKay correspondence for Hilb<sup>n</sup>(C<sup>3</sup>), categorical DT theory and geometric Langlands

Monday, 18 December 2023 10:00 (50 minutes)

The McKay correspondence for Hilb<sup>n</sup>(C<sup>2</sup>) is its derived equivalence with C<sup>{2</sup>n}/S\_n, proven by Bridgeland-King-Reid and Haiman. In this talk, I will explan how to give its version for Hilb<sup>n</sup>(C<sup>3</sup>) using categorical DT theory and its categorical wall-crossing formula. It involves semiorthogonal decomposition with factors categorical Hall products of quasi-BPS categories, which we conjecture to be equivalent to the category of matrix factorizations over C<sup>{3n}/S\_n</sup> with zero potential. I explain that how (a variant of ) the above conjecture is implied by Betti geometric Langlands conjecture. This is a part of my series of joint works with Tudor Padurariu.

Presenter: TODA, Yukinobu (Tokyo)