FMSP Lectures

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Toric mirror symmetry via shift operators

March 16 (Monday) 13:30~15:00, 15:30~17:30
March 17 (Tuesday) 13:30~15:00, 15:30~17:30
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Abstract:

Recently, shift operator for equivariant quantum cohomology has been introduced in the work of Braverman, Maulik, Okounkov and Pandharipande. This can be viewed as an equivariant lift of the Seidel representation, and intertwines quantum connections with different equivariant parameters.

In this series of talks, I will explain that shift operators essentially "reconstruct" mirrors of toric varieties. More precisely we obtain the following from basic properties of shift operators:

1. Givental's mirror theorem.
2. Landau-Ginzburg potential and primitive form.
3. Extended I-functions.

We will also see that the Gamma integral structure arises as a solution to the difference equation defined by shift operators.