

NTU Math Seminar

演講者 : Chun-Ju Lai (University of Georgia)

講題 : The power of folding in representation theory

時間 : 2020年2月24日 (星期一) 10:00 - 11:00 a.m.

地點 : 臺灣大學天數館 440 室

摘要 : The goal of the talk is to explain recent developments in representation theory that arise from folding a diagram. Since introduced by Drinfeld-Jimbo, the quantum groups and their canonical bases have played a central role in Lie theory. On this direction, diagram folding leads to a variant, called the quantum symmetric pairs, which affords a theory of canonical basis due to Bao-Wang. Such a theory accounts for the 2020 Chevalley Prize in Lie theory as it solves the character problem for ortho-symplectic Lie superalgebras. This is parallel to how Kazhdan-Lusztig bases solved the character problem for Lie algebras. On a different direction, the Springer fibers are important objects in geometric representation theory. For instance, knowledge on irreducible components of two-row Springer fibers of type A are useful in computing parabolic Kazhdan-Lusztig polynomials. By embedding Springer fibers into Nakajima's quiver varieties, we can apply a recent theory by Henderson-Licata and Li which arises from a similar diagram folding. Consequently, we obtain explicit descriptions of irreducible components of Springer fibers of classical type.

茶會 : 11:00-12:00

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