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Seminar

Theta Basis in Cluster Algebra (Part I & II)

Miss Mandy Man-Wai Cheung
University of California, San Diego & University of Cambridge

Abstract: Scattering diagrams were first developed by Kontsevich and Soibelman, later by Gross and Siebert, to solve problem in mirror symmetry. The original idea was to construct an order-by-order description of degeneration of Calabi-Yau manifold. Later on, it is found that the diagrams encodes information about cluster translation. While the canonical basis for cluster algebra is still unclear, Gross-Hacking-Keel-Kontservich proposed a basis for cluster algebra constructed from scattering diagram. And they are able to solve one of the major conjecture in cluster algebra by using this construction. In the talk, we are going to describe this construction. We will further show that this basis is the same as another proposed basis, greedy basis, in the cluster algebra world. If time permitted, I will talk about how the broken lines on scattering diagram give a stratification of quiver Grassmannians using this setting.

Date & Time: **Part I: December 15, 2015 (Tuesday),   2:00pm - 3:00pm**
              Part II: December 22, 2015 (Tuesday), 11:00am - 12:00noon
Venue: Room 222, Lady Shaw Building,
                   The Chinese University of Hong Kong, Shatin

All are Welcome!