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Dylan G.L. Allegretti* (dylan.allegretti@yale.edu), Department of Mathematics, Yale University, 10 Hillhouse Ave., New Haven, CT 06511. *A q -deformation of Fock and Goncharov's canonical basis for moduli spaces of local systems on surfaces.*

In a famous paper from 2003, Fock and Goncharov defined a version of the space of flat $PGL_2(\mathbb{C})$ -connections on a surface and showed that the algebra of functions on this space has a canonical basis parametrized by points of a dual moduli space. This algebra of functions can be canonically quantized, and Fock and Goncharov conjectured that their canonical basis could be deformed to a canonical set of elements of the quantized algebra. In this talk, I will describe my recent work with Hyun Kyu Kim proving Fock and Goncharov's conjecture. (Received September 13, 2015)