Arctic curves for bounded Lecture Hall Tableaux

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Lecture Hall partitions were introduced at the end of the 90s by Bousquet-Melou and Erickson as the inversion vectors of elements of the parabolic quotient $\tilde{C}_n/C_n$. Lecture Hall partitions and compositions are also the combinatorial interpretation of the coefficients of Little $q$-Little Jacobi polynomials and their moments. This approach coming from orthogonal polynomials guided us to define a new family of tableaux called Lecture Hall Tableaux. These give the combinatorial interpretation of the expansion the multivariate Little $q$-Laguerre polynomials in the Schur basis and of their moments. If time permits I will present also the asymptotics of bounded Lecture Hall tableaux of a given shape. These tableaux can be seen as non intersecting paths on a strip of the lecture hall lattice and also as a dimer model on the lecture hall honeycomb lattice. Thanks to these two points of view, we can compute the arctic curves of their limit shapes using dimers or the tangent method due to Colomo and Sportiello.

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