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Rachel Karpman* (rachelkarpman@gmail.com). *Total positivity, networks, and cluster variables: from type A to type C.*

The totally nonnegative Grassmannian $Gr_{\geq 0}(k, n)$ is the space of full-rank $k \times n$ matrices whose maximal minors are nonnegative real numbers, modulo row operations. Postnikov defined a stratification of $Gr_{\geq 0}(k, n)$ by *positroid cells*, and introduced a beautiful combinatorial theory to study this stratification. In particular, he constructed a family of coordinate charts for each positroid cell, defined in terms of planar networks called *plabic graphs*. Each chart from a plabic graph gives a *cluster* in a conjectural cluster structure on the positroid cell.

In this talk, we extend Postnikov's construction to the Lagrangian Grassmannian, a partial flag variety of type C . Here, the appropriate networks are symmetric versions of Postnikov's plabic graphs. Using these symmetric networks, we define coordinate charts on the natural analogs of positroid cells for the Lagrangian Grassmannian, and discuss possible connections to cluster algebras. (Received July 17, 2016)