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Karola Meszaros*, 212 Garden Ave, Ithaca, NY 14853. *Product formulas for the volumes of flow polytopes.*

I will present product formulas for the volumes of a special class of flow polytopes. This class is inspired by the Chan-Robins-Yuen polytope, whose volume is equal to a product of Catalan numbers (although there is no known combinatorial proof of this fact!). I will explain how certain algebras defined by Kirillov encode subdivisions of flow polytopes. Finally, I will show how to derive identities involving the Kostant partition function, using a connection with flow polytopes discovered by Postnikov and Stanley. (Received September 04, 2013)