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A presentation for the quantum K ring of partial flag manifolds

We give a conjectured generalization of the Whitney presentation for the (equivariant) quantum K ring of Grassmannians by Gu, Mihalcea, Sharpe, and Zou to all partial flag manifolds, and prove it for $Fl(1, n-1, n)$. The presentation arises from realizations of partial flag manifolds as Gauged Linear Sigma Models and highlights the structure of these manifolds as towers of Grassmann bundles. We also verify the specialization of this conjecture in quantum cohomology by comparing it with a presentation given by Gu and Kalashnikov using the abelian/non-abelian correspondence in mathematics. This is joint work with Gu, Mihalcea, Sharpe, Zhang, and Zou.