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Izzet Coskun* (coskun@math.uic.edu), UIC Department of Mathematics, 851 S Morgan Street M/C 249, Chicago, IL 60607. *Quantum cohomology and the periodicity of Littlewood-Richardson coefficients for flag varieties*. Preliminary report.

We prove vanishing and non-vanishing theorems for the small quantum cohomology of flag varieties. A consequence of our vanishing theorem is that the small quantum cohomology of two-step flag varieties $F(k_1, k_2; n)$ is classical if $n \geq 2k_2$. Another consequence is a remarkable periodicity property of the ordinary Littlewood-Richardson coefficients of flag varieties. (Received January 02, 2008)