Representation ring of Levi subgroups versus cohomology ring of flag varieties

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Recall the classical result that the cup product structure constants for the singular cohomology with integral coefficients of the Grassmannian of r-planes coincide with the Littlewood-Richardson tensor product structure constants for $GL(r)$. Specifically, the result asserts that there is an explicit ring homomorphism $\phi : \mathrm{Rep}_{poly}(GL(r)) \to H^*(Gr(r,n))$, where $Gr(r,n)$ denotes the Grassmannian of r-planes in $\mathbb{C}^n$ and $\mathrm{Rep}_{poly}(GL(r))$ denotes the polynomial representation ring of $GL(r)$.

This work seeks to achieve one possible generalization of this classical result for $GL(r)$ and the Grassmannian $Gr(r,n)$ to the Levi subgroups of any reductive group G and the corresponding flag varieties.