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Delta-Springer fibers

We introduce a family of compact varieties  $Y_{n,\lambda,s}$  that generalize the Springer fibers in type A. We show that they have a paving by affines and use properties of this paving to give a presentation for their cohomology rings. These cohomology rings have an action of  $S_n$  with the top dimensional cohomology being an induced Specht module. In the case where  $\lambda = (1^k)$  and s = k, the cohomology ring is the ring constructed by Haglund-Rhoades-Shimozono whose graded Frobenius characteristic is the symmetric function  $\omega(\Delta'_{e_{k-1}}e_n(q, 0))$ .

This is joint work with Sean Griffin (ICERM/UC Davis) and Jake Levinson (SFU).