1119-05-92 **Zachary Hamaker**, **Rebecca Patrias**, **Oliver Pechenik*** (pecheni2@illinois.edu) and **Nathan Williams**. *Coincidental types, K-theoretic Schubert calculus, and bijections of plane partitions.*

In 1983, R. Proctor established non-bijectively that the number of plane partitions of height k over a rectangle equals the number of plane partitions of height k over a shifted trapezoid. Explicit bijections were given for the case $k = 1$ by J. Stembridge (1986) and V. Reiner (1997), and for the case $k = 2$ by S. Elizalde (2015).

One consequence of R. Proctor's result is that the two shapes also have the same number of standard Young tableaux. An elegant bijective proof of this latter fact was given by M. Haiman (1992). We use combinatorial technology derived from K-theoretic Schubert calculus to extend M. Haiman's bijection, obtaining the first bijective proof of R. Proctor's result for arbitrary k. Our techniques apply more generally, establishing analogous results for other positive root posets of coincidental type. (Received February 09, 2016)