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**Jieru Zhu\***, jieru.zhu-1@ou.edu. *Two boundary centralizer algebras for  $\mathfrak{q}(n)$ .*

The Sergeev duality states that the action of the Type Q Lie superalgebra  $\mathfrak{q}(n)$  and the Sergeev algebra fully centralize each other on the tensor space. Hill-Kujawa-Sussan (2011) generalized this work to the one boundary setting. We further study the two boundary generalization and define the degenerate two boundary affine Hecke-Clifford algebra  $\mathcal{B}_d$  using generators and relations. It admits a  $\mathfrak{q}(n)$ -linear action on  $M \otimes N \otimes V^{\otimes d}$  for the natural representation  $V$  and arbitrary  $\mathfrak{q}(n)$ -modules  $M$  and  $N$ . When  $M$  and  $N$  are polynomial modules parametrized by a staircase and a single row partition, respectively, the action of  $\mathcal{B}_d$  factors through a quotient algebra  $\mathcal{H}_d$ . Using combinatorial tools such as the Bratteli diagram and shifted Young tableaux, we construct simple modules for  $\mathcal{H}_d$ . These modules occur as irreducible  $\mathcal{H}_d$ -summands of  $M \otimes N \otimes V^{\otimes d}$ . (Received July 16, 2018)