Can internal waves descend a double-diffusive staircase? SASAN GHAEMSNAIDI, MIT, HAYLEY DOSSER, LUC RAINVILLE, University of Washington, THOMAS PEACOCK, MIT — Due to the rapid loss of ice cover, internal waves are expected to play an increasingly important role in the Arctic Ocean. As such, we present the results of a theoretical study investigating the role of double-diffusive layering, characteristic of the Arctic Ocean, on the fate of internal waves. We begin by considering the transmission properties of a single double-diffusive layer, from which we progress to consider multiple layers, and conclude with a realistic stratification. We investigate the possibility that double-diffusive layer structures can be efficient internal wave inhibitors, shielding the deep ocean from the transmission of momentum and energy flux associated with near inertial waves generated by passing storms.