A New Class of $J_{eff} = 1/2$ Mott Insulators TURAN BIROL, KRISTJAN HAULE, Rutgers, The State University of New Jersey — We predict a novel class of Jeff=1/2 Mott insulators in a family of Ir and Rh fluoride compounds with the K$_2$GeF$_6$ crystal structure that are previously synthesized, but not characterized extensively. First principles calculations in the level of all electron Density Functional Theory + Dynamical Mean Field Theory (DFT+DMFT) indicate that these compounds have large Mott gaps and some of them exhibit unprecedented proximity to the ideal, SU(2) symmetric Jeff=1/2 limit.