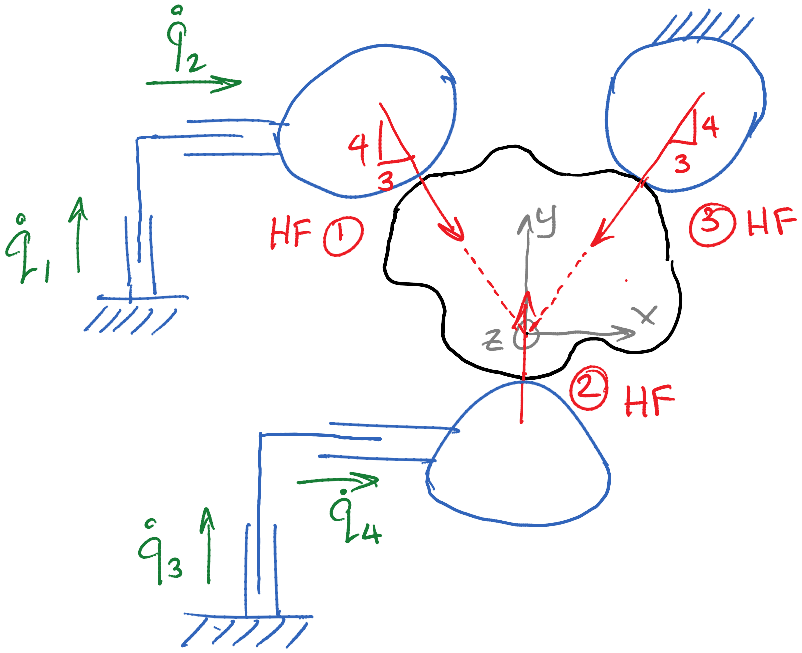
grasp3d_5

Saturday, February 09, 2013
12:35 PM

JUSTIFY ANSWERS TO YES-NO QUESTIONS



(A.) Construct G & J for the 3D grasp shown on the right. All contact points have z-position component = 0.

(B) Give a basis for all 4 subspaces of G & J and interpet them physically.

(C). Does this grasp have first order form closure?

(D.) Assume μ is the same at every contact point. What is the smallest value of μ, call it μ^*, for which the grasp has frictional form closure?

(E) For $\mu \geq \mu^*$, does the grasp have force closure? If not, how might J be changed so that the grasp has force closure?

(F) Does this grasp meet the requirements for dexterous manipulation?