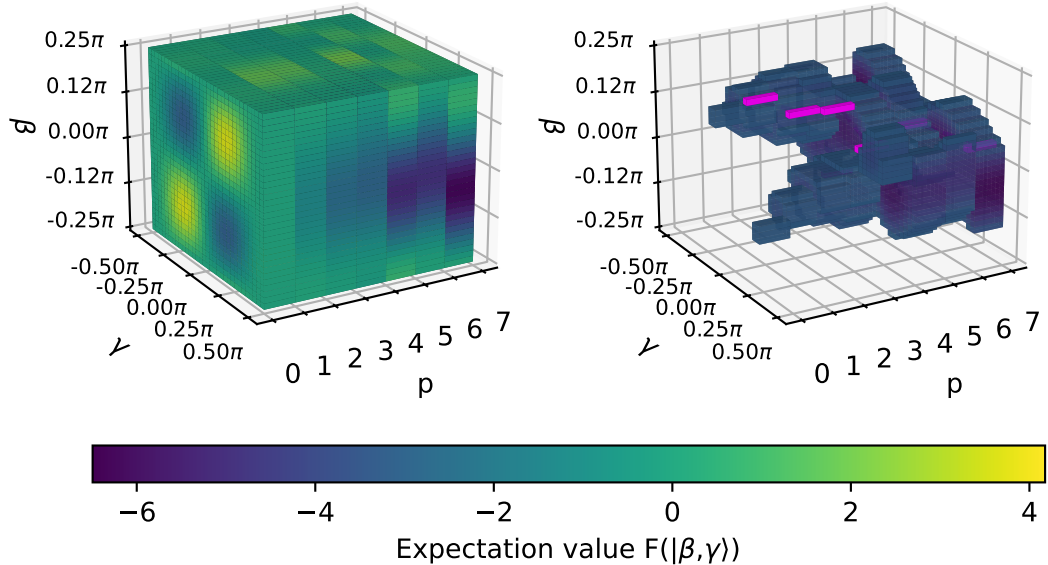


# Expectation Values for QAOA with increasing p for a 12 qubit problem instance, parameters optimized using the COBYLA method



**Best  $\beta$ :**  $[-0.6387629927685894, -0.5657051625500816, -0.5881334310472076,$   
 $-0.19827574290935457, 0.3459173667442629, -0.24448483534030963, -0.17734797238006894]$

**Best  $\gamma$ :**  $[0.34086628288177595, 0.6765331168176437, 0.7605448056580099,$   
 $0.8564128685634471, -0.8161400551478804, 0.35769182645342146, 1.3681129297891035]$