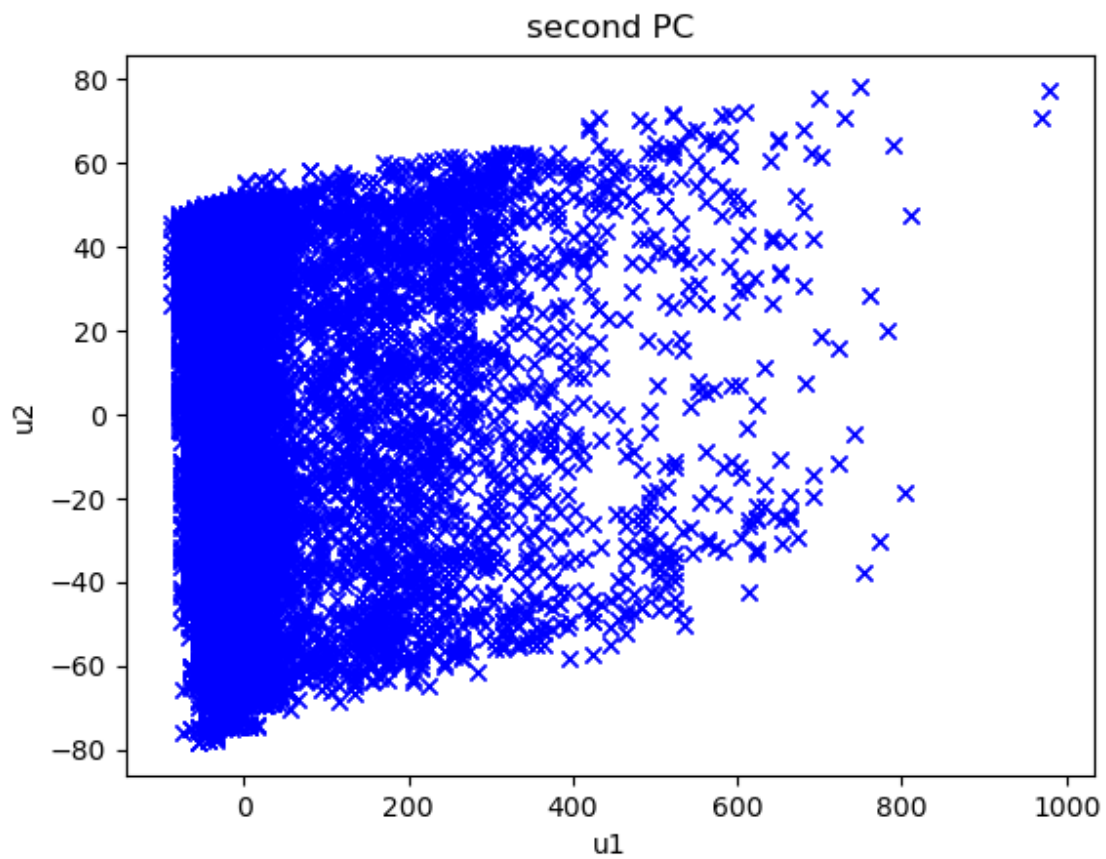


Part I: Principal Components Analysis

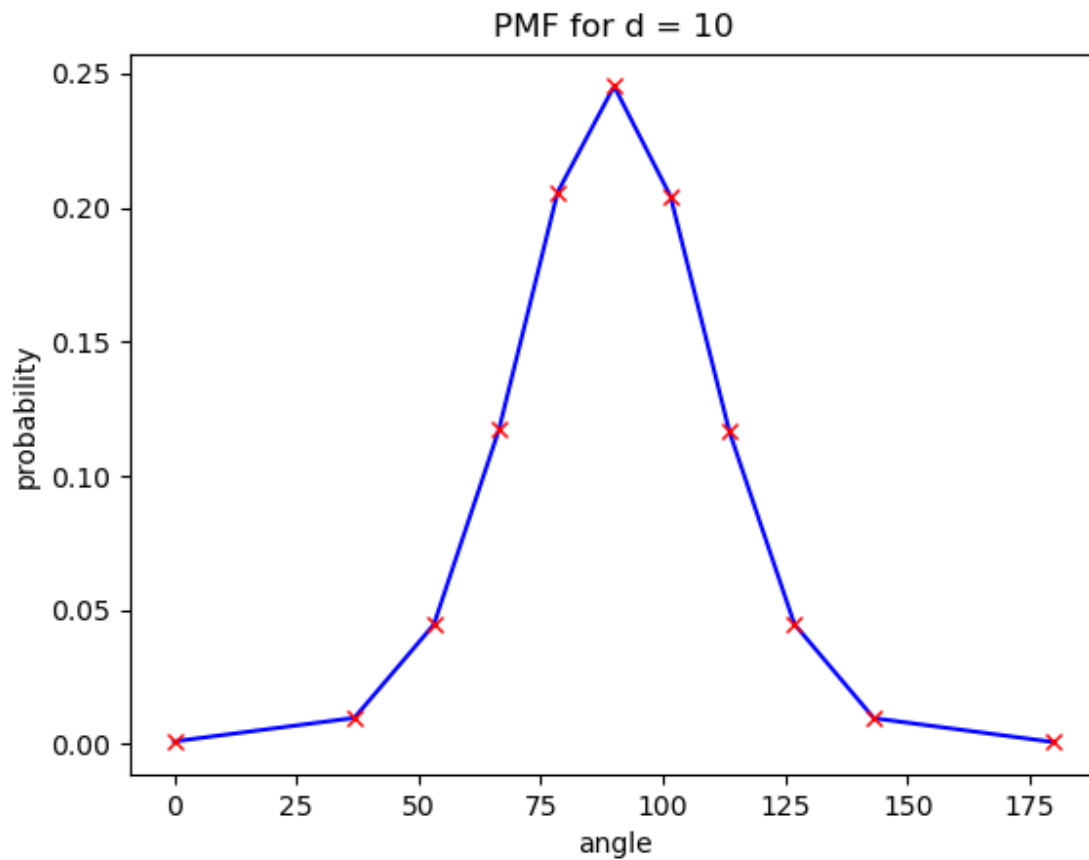


Second PC

Dimensions required: 6

MSE is 603.409 for the third component.

Part II: Diagonals in High Dimensions



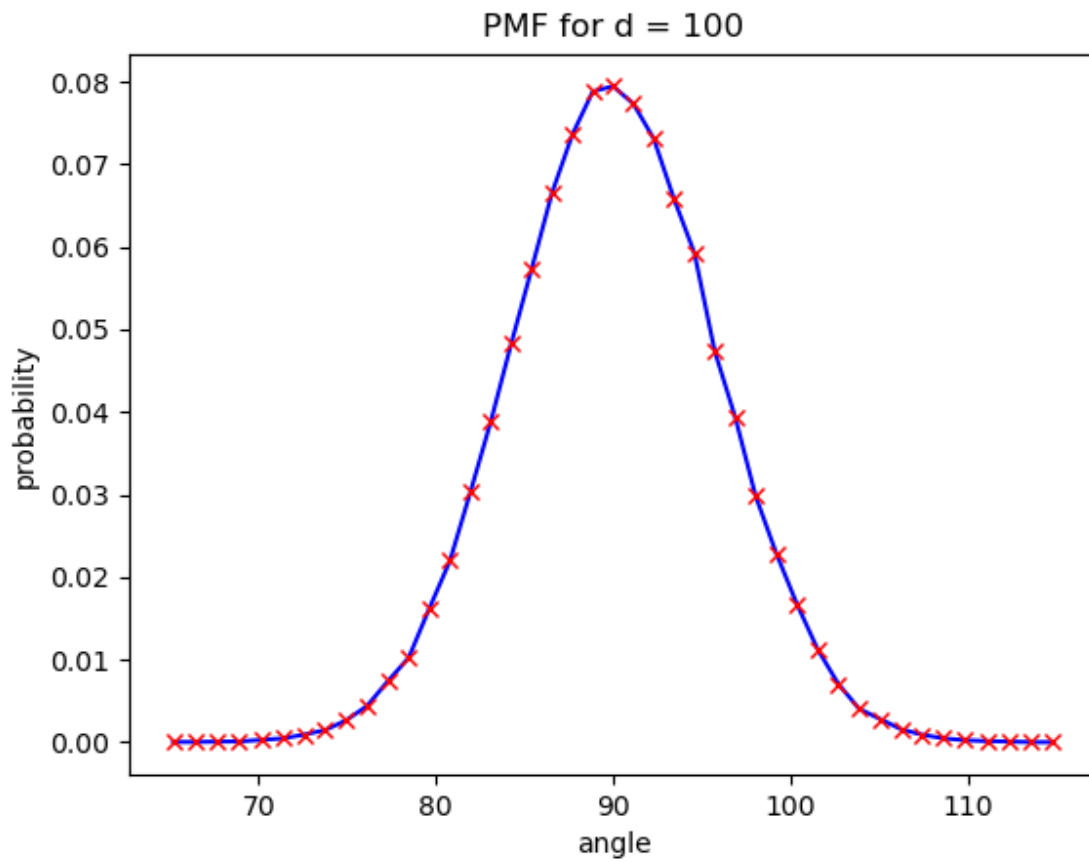
min for $d = 10$ is $1.2074182697257333e-06$

max for $d = 10$ is 179.99999879258172

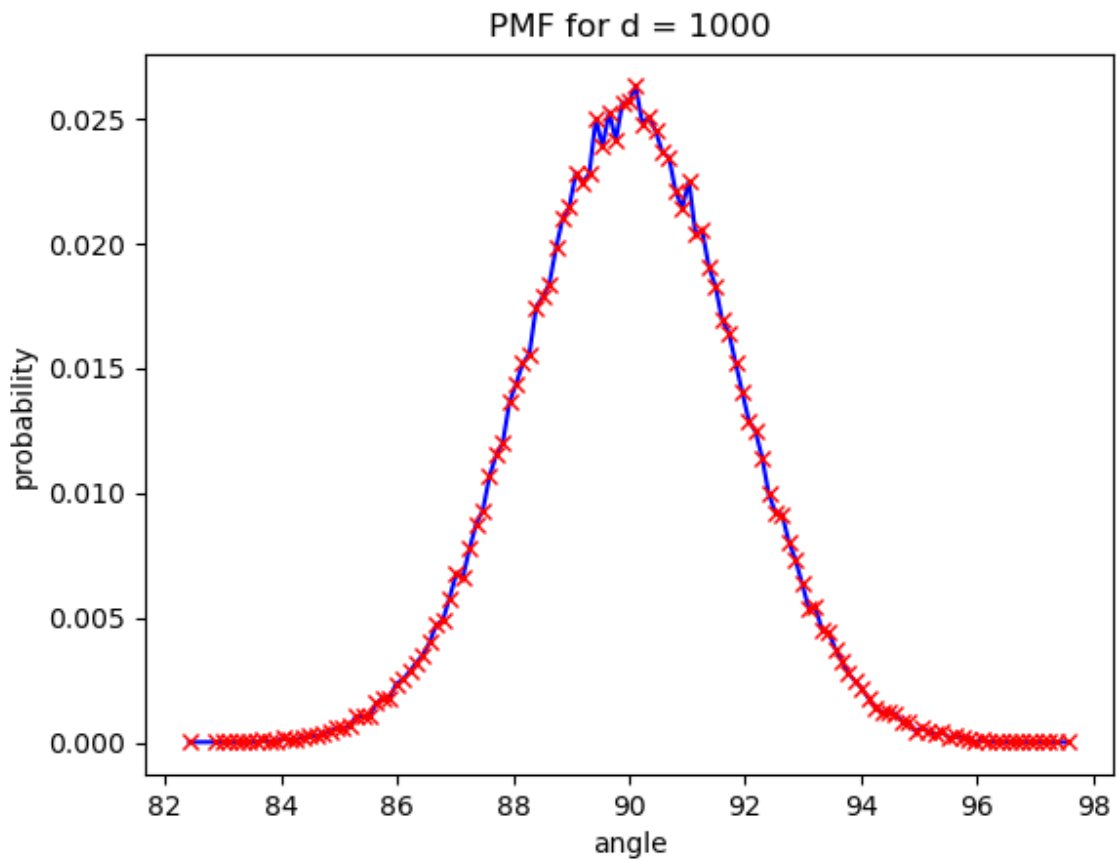
range for $d = 10$ is 179.99999758516344

mean for $d = 10$ is 89.94401504099

variance for $d = 10$ is 375.834126725823



min for $d = 100$ is 65.16541251029841
max for $d = 100$ is 114.83458748970159
range for $d = 100$ is 49.66917497940318
mean for $d = 100$ is 90.01566923036
variance for $d = 100$ is 33.298080691737084



min for $d = 1000$ is 82.4148200121149
max for $d = 1000$ is 97.5851799878851
range for $d = 1000$ is 15.170359975770197
mean for $d = 1000$ is 90.00021778809736
variance for $d = 1000$ is 3.2663148403702453