```
        P(K) estimated by FV1: 1.463% (simulation time = 20.0)
        P(K) estimated by FV2: 4.899% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 10 of 10... execution time: 1.7 sec
        P(K) by MC: 2.294%, E(T) = 4.0 (simulation time = 1000.0)
        P(K) estimated by FV1: 1.068% (simulation time = 20.0)
        P(K) estimated by FV2: 4.492% (simulation time = 20.0)
        True P(K): 1.587%
Running simulation for nparticles=75 on 10 replications (2 of 7)...
        Replication 1 of 10... execution time: 2.4 sec
        P(K) by MC: 1.232%, E(T) = 4.1 (simulation time = 1500.0)
        P(K) estimated by FV1: 0.878% (simulation time = 20.0)
        P(K) estimated by FV2: 2.636% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 2 of 10... execution time: 2.6 sec
        P(K) by MC: 1.898%, E(T) = 3.8 (simulation time = 1500.0)
        P(K) estimated by FV1: 1.380% (simulation time = 20.0)
        P(K) estimated by FV2: 5.925% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 3 of 10... execution time: 2.4 sec
        P(K) by MC: 0.807%, E(T) = 3.6 (simulation time = 1500.0)
        P(K) estimated by FV1: 1.537% (simulation time = 20.0)
        P(K) estimated by FV2: 4.592% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 4 of 10... execution time: 2.4 sec
        P(K) by MC: 1.677%, E(T) = 4.0 (simulation time = 1500.0)
        P(K) estimated by FV1: 1.635% (simulation time = 20.0)
        P(K) estimated by FV2: 4.293% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 5 of 10... execution time: 2.6 sec
        P(K) by MC: 1.568%, E(T) = 4.2 (simulation time = 1500.0)
        P(K) estimated by FV1: 1.893% (simulation time = 20.0)
        P(K) estimated by FV2: 6.008% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 6 of 10... execution time: 2.7 sec
        P(K) by MC: 1.739%, E(T) = 3.8 (simulation time = 1500.0)
        P(K) estimated by FV1: 1.265% (simulation time = 20.0)
        P(K) estimated by FV2: 4.605% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 7 of 10... execution time: 2.3 sec
        P(K) by MC: 0.938%, E(T) = 3.8 (simulation time = 1500.0)
        P(K) estimated by FV1: 2.126% (simulation time = 20.0)
        P(K) estimated by FV2: 6.791% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 8 of 10... execution time: 2.4 sec
        P(K) by MC: 1.880%, E(T) = 4.2 (simulation time = 1500.0)
        P(K) estimated by FV1: 1.548% (simulation time = 20.0)
        P(K) estimated by FV2: 5.661% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 9 of 10... execution time: 2.4 sec
        P(K) by MC: 1.938%, E(T) = 3.9 (simulation time = 1500.0)
        P(K) estimated by FV1: 1.965% (simulation time = 20.0)
        P(K) estimated by FV2: 7.024% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 10 of 10... execution time: 2.5 sec
        P(K) by MC: 1.715%, E(T) = 3.8 (simulation time = 1500.0)
        P(K) estimated by FV1: 1.645% (simulation time = 20.0)
        P(K) estimated by FV2: 4.968% (simulation time = 20.0)
        True P(K): 1.587%
Running simulation for nparticles=112 on 10 replications (3 of 7)...
        Replication 1 of 10... execution time: 3.6 sec
        P(K) by MC: 1.261%, E(T) = 4.2 (simulation time = 2240.0)
        P(K) estimated by FV1: 1.180% (simulation time = 20.0)
        P(K) estimated by FV2: 4.491% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 2 of 10... execution time: 4.1 sec
        P(K) by MC: 1.790%, E(T) = 3.8 (simulation time = 2240.0)
        P(K) estimated by FV1: 1.758% (simulation time = 20.0)
        P(K) estimated by FV2: 6.312% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 3 of 10... execution time: 3.7 sec
        P(K) by MC: 0.761%, E(T) = 3.7 (simulation time = 2240.0)
        P(K) estimated by FV1: 1.044% (simulation time = 20.0)
```

```
        P(K) estimated by FV2: 3.144% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 4 of 10... execution time: 3.6 sec
        P(K) by MC: 1.542%, E(T) = 3.9 (simulation time = 2240.0)
        P(K) estimated by FV1: 1.590% (simulation time = 20.0)
        P(K) estimated by FV2: 5.165% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 5 of 10... execution time: 3.7 sec
        P(K) by MC: 1.909%, E(T) = 4.1 (simulation time = 2240.0)
        P(K) estimated by FV1: 2.411% (simulation time = 20.0)
        P(K) estimated by FV2: 7.519% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 6 of 10... execution time: 3.6 sec
        P(K) by MC: 1.488%, E(T) = 3.9 (simulation time = 2240.0)
        P(K) estimated by FV1: 2.171% (simulation time = 20.0)
        P(K) estimated by FV2: 10.651% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 7 of 10... execution time: 3.5 sec
        P(K) by MC: 0.730%, E(T) = 3.8 (simulation time = 2240.0)
        P(K) estimated by FV1: 1.137% (simulation time = 20.0)
        P(K) estimated by FV2: 3.584% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 8 of 10... execution time: 3.7 sec
        P(K) by MC: 1.479%, E(T) = 4.0 (simulation time = 2240.0)
        P(K) estimated by FV1: 1.363% (simulation time = 20.0)
        P(K) estimated by FV2: 4.771% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 9 of 10... execution time: 3.8 sec
        P(K) by MC: 1.704%, E(T) = 4.1 (simulation time = 2240.0)
        P(K) estimated by FV1: 1.507% (simulation time = 20.0)
        P(K) estimated by FV2: 4.709% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 10 of 10... execution time: 3.8 sec
        P(K) by MC: 1.742%, E(T) = 3.9 (simulation time = 2240.0)
        P(K) estimated by FV1: 1.529% (simulation time = 20.0)
        P(K) estimated by FV2: 4.118% (simulation time = 20.0)
        True P(K): 1.587%
Running simulation for nparticles=168 on 10 replications (4 of 7)...
        Replication 1 of 10... execution time: 5.3 sec
        P(K) by MC: 1.159%, E(T) = 4.1 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.453% (simulation time = 20.0)
        P(K) estimated by FV2: 5.131% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 2 of 10... execution time: 5.5 sec
        P(K) by MC: 1.698%, E(T) = 3.8 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.112% (simulation time = 20.0)
        P(K) estimated by FV2: 5.483% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 3 of 10... execution time: 5.3 sec
        P(K) by MC: 0.852%, E(T) = 3.7 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.293% (simulation time = 20.0)
        P(K) estimated by FV2: 3.762% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 4 of 10... execution time: 5.3 sec
        P(K) by MC: 1.412%, E(T) = 3.8 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.702% (simulation time = 20.0)
        P(K) estimated by FV2: 5.858% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 5 of 10... execution time: 5.6 sec
        P(K) by MC: 1.698%, E(T) = 4.1 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.513% (simulation time = 20.0)
        P(K) estimated by FV2: 5.092% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 6 of 10... execution time: 5.5 sec
        P(K) by MC: 1.737%, E(T) = 3.9 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.378% (simulation time = 20.0)
        P(K) estimated by FV2: 5.914% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 7 of 10... execution time: 5.3 sec
        P(K) by MC: 1.139%, E(T) = 3.8 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.465% (simulation time = 20.0)
        P(K) estimated by FV2: 8.032% (simulation time = 20.0)
        True P(K): 1.587%
```

```
        Replication 8 of 10... execution time: 5.3 sec
        P(K) by MC: 1.543%, E(T) = 4.0 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.458% (simulation time = 20.0)
        P(K) estimated by FV2: 4.672% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 9 of 10... execution time: 5.3 sec
        P(K) by MC: 1.694%, E(T) = 4.0 (simulation time = 3360.0)
        P(K) estimated by FV1: 1.306% (simulation time = 20.0)
        P(K) estimated by FV2: 3.458% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 10 of 10... execution time: 5.4 sec
        P(K) by MC: 1.580%, E(T) = 3.9 (simulation time = 3360.0)
        P(K) estimated by FV1: 2.091% (simulation time = 20.0)
        P(K) estimated by FV2: 6.840% (simulation time = 20.0)
        True P(K): 1.587%
Running simulation for nparticles=252 on 10 replications (5 of 7)...
        Replication 1 of 10... execution time: 8.1 sec
        P(K) by MC: 1.120%, E(T) = 4.0 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.533% (simulation time = 20.0)
        P(K) estimated by FV2: 5.998% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 2 of 10... execution time: 8.4 sec
        P(K) by MC: 1.361%, E(T) = 3.9 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.485% (simulation time = 20.0)
        P(K) estimated by FV2: 5.639% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 3 of 10... execution time: 8.0 sec
        P(K) by MC: 0.985%, E(T) = 3.8 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.162% (simulation time = 20.0)
        P(K) estimated by FV2: 3.837% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 4 of 10... execution time: 8.1 sec
        P(K) by MC: 1.471%, E(T) = 3.8 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.211% (simulation time = 20.0)
        P(K) estimated by FV2: 3.806% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 5 of 10... execution time: 8.3 sec
        P(K) by MC: 1.598%, E(T) = 3.9 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.581% (simulation time = 20.0)
        P(K) estimated by FV2: 4.643% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 6 of 10... execution time: 7.9 sec
        P(K) by MC: 1.635%, E(T) = 4.0 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.174% (simulation time = 20.0)
        P(K) estimated by FV2: 4.440% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 7 of 10... execution time: 8.2 sec
        P(K) by MC: 1.185%, E(T) = 3.8 (simulation time = 5040.0)
        P(K) estimated by FV1: 0.997% (simulation time = 20.0)
        P(K) estimated by FV2: 4.010% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 8 of 10... execution time: 7.8 sec
        P(K) by MC: 1.491%, E(T) = 4.0 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.365% (simulation time = 20.0)
        P(K) estimated by FV2: 4.076% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 9 of 10... execution time: 7.8 sec
        P(K) by MC: 1.754%, E(T) = 4.0 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.217% (simulation time = 20.0)
        P(K) estimated by FV2: 3.077% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 10 of 10... execution time: 7.9 sec
        P(K) by MC: 1.415%, E(T) = 3.8 (simulation time = 5040.0)
        P(K) estimated by FV1: 1.844% (simulation time = 20.0)
        P(K) estimated by FV2: 5.668% (simulation time = 20.0)
        True P(K): 1.587%
Running simulation for nparticles=378 on 10 replications (6 of 7)...
        Replication 1 of 10... execution time: 11.8 sec
        P(K) by MC: 1.386%, E(T) = 4.0 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.432% (simulation time = 20.0)
        P(K) estimated by FV2: 5.456% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 2 of 10... execution time: 12.5 sec
```

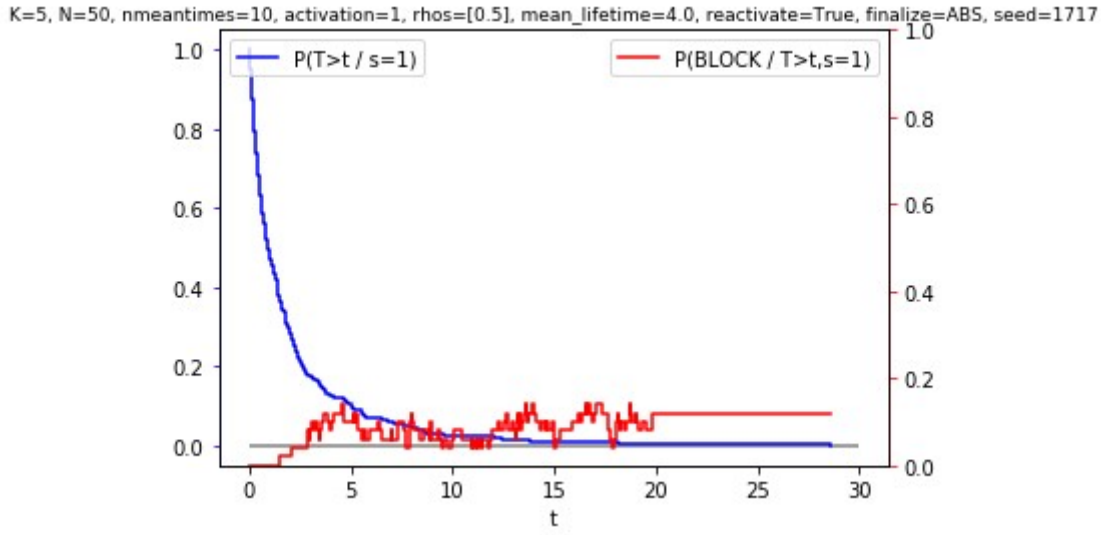
```
        P(K) by MC: 1.432%, E(T) = 3.9 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.776% (simulation time = 20.0)
        P(K) estimated by FV2: 6.502% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 3 of 10... execution time: 12.1 sec
        P(K) by MC: 1.023%, E(T) = 3.8 (simulation time = 7560.0)
        P(K) estimated by FV1: 0.953% (simulation time = 20.0)
        P(K) estimated by FV2: 3.613% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 4 of 10... execution time: 17.3 sec
        P(K) by MC: 1.449%, E(T) = 3.9 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.525% (simulation time = 20.0)
        P(K) estimated by FV2: 5.736% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 5 of 10... execution time: 12.5 sec
        P(K) by MC: 1.416%, E(T) = 3.9 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.345% (simulation time = 20.0)
        P(K) estimated by FV2: 4.394% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 6 of 10... execution time: 12.3 sec
        P(K) by MC: 1.760%, E(T) = 3.9 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.529% (simulation time = 20.0)
        P(K) estimated by FV2: 6.981% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 7 of 10... execution time: 13.2 sec
        P(K) by MC: 1.144%, E(T) = 3.8 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.458% (simulation time = 20.0)
        P(K) estimated by FV2: 6.839% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 8 of 10... execution time: 12.2 sec
        P(K) by MC: 1.249%, E(T) = 3.9 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.662% (simulation time = 20.0)
        P(K) estimated by FV2: 5.623% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 9 of 10... execution time: 12.4 sec
        P(K) by MC: 1.566%, E(T) = 4.0 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.642% (simulation time = 20.0)
        P(K) estimated by FV2: 5.095% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 10 of 10... execution time: 12.5 sec
        P(K) by MC: 1.369%, E(T) = 3.9 (simulation time = 7560.0)
        P(K) estimated by FV1: 1.852% (simulation time = 20.0)
        P(K) estimated by FV2: 5.812% (simulation time = 20.0)
        True P(K): 1.587%
Running simulation for nparticles=567 on 10 replications (7 of 7)...
        Replication 1 of 10... execution time: 19.1 sec
        P(K) by MC: 1.339%, E(T) = 4.0 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.405% (simulation time = 20.0)
        P(K) estimated by FV2: 4.679% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 2 of 10... execution time: 22.1 sec
        P(K) by MC: 1.486%, E(T) = 4.0 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.528% (simulation time = 20.0)
        P(K) estimated by FV2: 4.286% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 3 of 10... execution time: 19.2 sec
        P(K) by MC: 1.137%, E(T) = 3.8 (simulation time = 11340.0)
        P(K) estimated by FV1: 0.980% (simulation time = 20.0)
        P(K) estimated by FV2: 3.685% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 4 of 10... execution time: 19.1 sec
        P(K) by MC: 1.604%, E(T) = 3.9 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.456% (simulation time = 20.0)
        P(K) estimated by FV2: 5.099% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 5 of 10... execution time: 19.5 sec
        P(K) by MC: 1.440%, E(T) = 3.9 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.265% (simulation time = 20.0)
        P(K) estimated by FV2: 4.246% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 6 of 10... execution time: 19.6 sec
        P(K) by MC: 1.688%, E(T) = 4.0 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.647% (simulation time = 20.0)
```

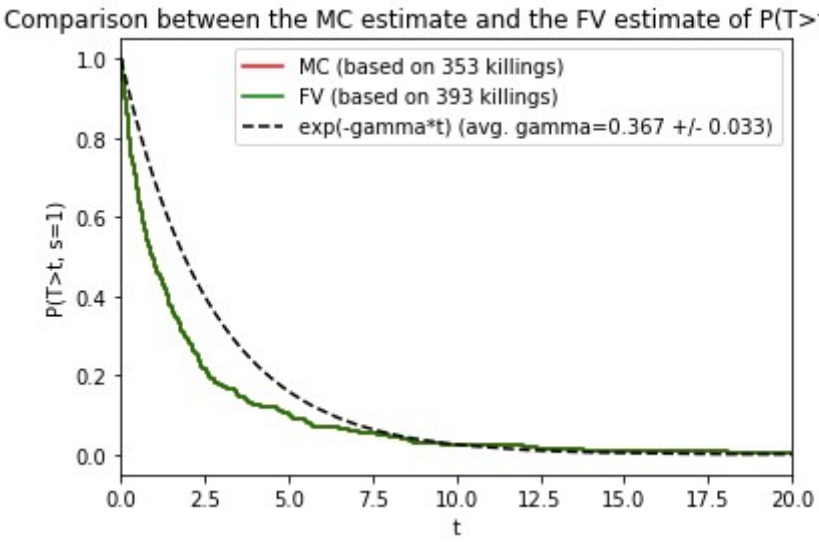
```
        P(K) estimated by FV2: 6.135% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 7 of 10... execution time: 18.9 sec
        P(K) by MC: 1.402%, E(T) = 3.9 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.512% (simulation time = 20.0)
        P(K) estimated by FV2: 5.366% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 8 of 10... execution time: 19.1 sec
        P(K) by MC: 1.442%, E(T) = 3.9 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.744% (simulation time = 20.0)
        P(K) estimated by FV2: 5.609% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 9 of 10... execution time: 19.0 sec
        P(K) by MC: 1.608%, E(T) = 4.0 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.715% (simulation time = 20.0)
        P(K) estimated by FV2: 6.464% (simulation time = 20.0)
        True P(K): 1.587%
        Replication 10 of 10... execution time: 19.9 sec
        P(K) by MC: 1.378%, E(T) = 3.9 (simulation time = 11340.0)
        P(K) estimated by FV1: 1.955% (simulation time = 20.0)
        P(K) estimated by FV2: 6.095% (simulation time = 20.0)
        True P(K): 1.587%
Total execution time: 9.0 min
Simulation results for c=1, K=5, rhos=[0.5], (50<=N<=600), T<=20
Raw results by N:
      N replication    Pr(MC)  Time(MC)      E(T)    Pr(FV)  Time(FV)  \
1    50           1  0.009517    1000.0  4.037939  0.018912      20.0
1    50           2  0.017621    1000.0  3.769863  0.004699      20.0
1    50           3  0.011660    1000.0  3.660527  0.013922      20.0
1    50           4  0.019223    1000.0  3.919891  0.018526      20.0
1    50           5  0.015481    1000.0  4.190772  0.017716      20.0
1    50           6  0.021070    1000.0  3.961553  0.010357      20.0
1    50           7  0.012020    1000.0  3.739551  0.010764      20.0
1    50           8  0.024682    1000.0  4.129201  0.014378      20.0
1    50           9  0.019832    1000.0  3.983336  0.014635      20.0
1    50          10  0.022943    1000.0  4.046470  0.010679      20.0
2    75           1  0.012320    1500.0  4.093068  0.008781      20.0
2    75           2  0.018975    1500.0  3.813710  0.013801      20.0
2    75           3  0.008067    1500.0  3.621072  0.015365      20.0
2    75           4  0.016766    1500.0  3.987768  0.016351      20.0
2    75           5  0.015677    1500.0  4.235718  0.018931      20.0
2    75           6  0.017389    1500.0  3.798729  0.012654      20.0
2    75           7  0.009383    1500.0  3.790299  0.021263      20.0
2    75           8  0.018804    1500.0  4.208646  0.015477      20.0
2    75           9  0.019379    1500.0  3.924832  0.019652      20.0
2    75          10  0.017148    1500.0  3.809408  0.016454      20.0
3   112           1  0.012614    2240.0  4.177593  0.011799      20.0
3   112           2  0.017897    2240.0  3.814497  0.017576      20.0
3   112           3  0.007614    2240.0  3.658885  0.010440      20.0
3   112           4  0.015421    2240.0  3.894965  0.015899      20.0
3   112           5  0.019094    2240.0  4.109107  0.024114      20.0
3   112           6  0.014877    2240.0  3.851202  0.021713      20.0
3   112           7  0.007303    2240.0  3.821448  0.011373      20.0
3   112           8  0.014788    2240.0  4.007005  0.013631      20.0
3   112           9  0.017044    2240.0  4.053191  0.015071      20.0
3   112          10  0.017420    2240.0  3.877872  0.015293      20.0
..  ...         ...       ...       ...       ...       ...       ...
5   252           1  0.011200    5040.0  3.952503  0.015328      20.0
5   252           2  0.013608    5040.0  3.879711  0.014849      20.0
5   252           3  0.009850    5040.0  3.762114  0.011617      20.0
5   252           4  0.014712    5040.0  3.806382  0.012108      20.0
5   252           5  0.015976    5040.0  3.936310  0.015813      20.0
5   252           6  0.016352    5040.0  3.956794  0.011742      20.0
5   252           7  0.011853    5040.0  3.840166  0.009975      20.0
5   252           8  0.014908    5040.0  3.951534  0.013651      20.0
5   252           9  0.017544    5040.0  3.974609  0.012166      20.0
5   252          10  0.014149    5040.0  3.809634  0.018436      20.0
6   378           1  0.013858    7560.0  4.005252  0.014316      20.0
6   378           2  0.014317    7560.0  3.892863  0.017756      20.0
6   378           3  0.010232    7560.0  3.784968  0.009534      20.0
6   378           4  0.014491    7560.0  3.893692  0.015247      20.0
6   378           5  0.014161    7560.0  3.876818  0.013451      20.0
6   378           6  0.017602    7560.0  3.912086  0.015294      20.0
```

6	378	7	0.011436	7560.0	3.835536	0.014577	20.0	
6	378	8	0.012488	7560.0	3.916884	0.016622	20.0	
6	378	9	0.015663	7560.0	3.951361	0.016416	20.0	
6	378	10	0.013694	7560.0	3.878378	0.018518	20.0	
7	567	1	0.013393	11340.0	3.989736	0.014050	20.0	
7	567	2	0.014864	11340.0	3.957284	0.015280	20.0	
7	567	3	0.011366	11340.0	3.795776	0.009797	20.0	
7	567	4	0.016039	11340.0	3.905205	0.014561	20.0	
7	567	5	0.014399	11340.0	3.868555	0.012654	20.0	
7	567	6	0.016878	11340.0	3.986672	0.016470	20.0	
7	567	7	0.014019	11340.0	3.940741	0.015119	20.0	
7	567	8	0.014422	11340.0	3.936923	0.017441	20.0	
7	567	9	0.016083	11340.0	3.984511	0.017153	20.0	
7	567	10	0.013784	11340.0	3.878656	0.019546	20.0	

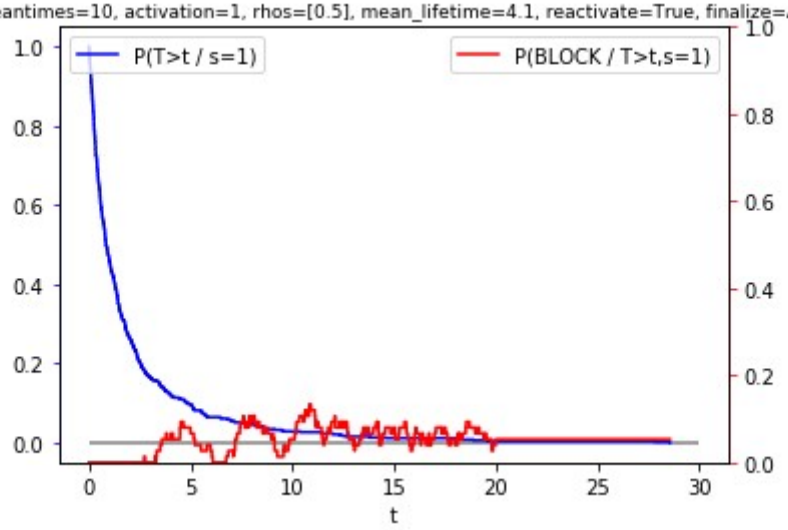
	Pr(K)	exec_time(s)
1	0.015873	1.491000
1	0.015873	1.624701
1	0.015873	1.721687
1	0.015873	1.528752
1	0.015873	1.563504
1	0.015873	1.639741
1	0.015873	2.203275
1	0.015873	2.058181
1	0.015873	1.761524
1	0.015873	1.675032
2	0.015873	2.393018
2	0.015873	2.624158
2	0.015873	2.447851
2	0.015873	2.419074
2	0.015873	2.628496
2	0.015873	2.703923
2	0.015873	2.344258
2	0.015873	2.365276
2	0.015873	2.393555
2	0.015873	2.518845
3	0.015873	3.577268
3	0.015873	4.087189
3	0.015873	3.719612
3	0.015873	3.584710
3	0.015873	3.653831
3	0.015873	3.622599
3	0.015873	3.545571
3	0.015873	3.703374
3	0.015873	3.781316
3	0.015873	3.784301
..	...	...
5	0.015873	8.062159
5	0.015873	8.391426
5	0.015873	8.034855
5	0.015873	8.082543
5	0.015873	8.329941
5	0.015873	7.869975
5	0.015873	8.229636
5	0.015873	7.817752
5	0.015873	7.844056
5	0.015873	7.863593
6	0.015873	11.843483
6	0.015873	12.527914
6	0.015873	12.118329
6	0.015873	17.274748
6	0.015873	12.508650
6	0.015873	12.304819
6	0.015873	13.182458
6	0.015873	12.209270
6	0.015873	12.403904
6	0.015873	12.479074
7	0.015873	19.087807
7	0.015873	22.085406
7	0.015873	19.217082
7	0.015873	19.064346
7	0.015873	19.524310
7	0.015873	19.631362

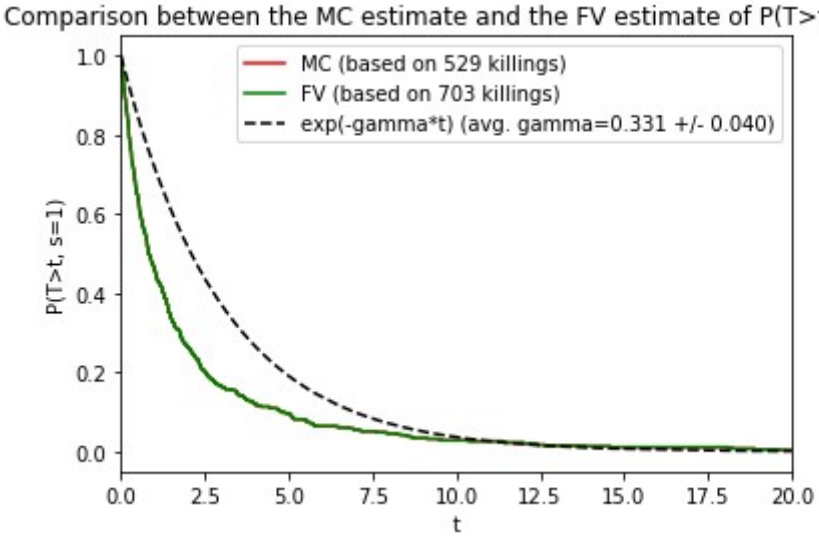
```
7   0.015873     18.909916
7   0.015873     19.119451
7   0.015873     18.966479
7   0.015873     19.850069

[70 rows x 9 columns]
Aggregated results by N:
         n             mean                 std                 min           \
    Pr(MC) Pr(FV)    Pr(MC)    Pr(FV)    Pr(MC)    Pr(FV)    Pr(MC)    Pr(FV)
N
50      10     10  0.017405  0.013459  0.005101  0.004439  0.009517  0.004699
75      10     10  0.015391  0.015873  0.004064  0.003630  0.008067  0.008781
112     10     10  0.014407  0.015691  0.004102  0.004434  0.007303  0.010440
168     10     10  0.014514  0.014770  0.003039  0.002659  0.008521  0.011115
252     10     10  0.014015  0.013569  0.002431  0.002531  0.009850  0.009975
378     10     10  0.013794  0.015173  0.002078  0.002525  0.010232  0.009534
567     10     10  0.014525  0.015207  0.001580  0.002724  0.011366  0.009797

          max                   SE
       Pr(MC)    Pr(FV)    Pr(MC)    Pr(FV)
N
50   0.024682  0.018912  0.001613  0.001404
75   0.019379  0.021263  0.001285  0.001148
112  0.019094  0.024114  0.001297  0.001402
168  0.017374  0.020911  0.000961  0.000841
252  0.017544  0.018436  0.000769  0.000800
378  0.017602  0.018518  0.000657  0.000798
567  0.016878  0.019546  0.000500  0.000861
C:\ProgramData\Anaconda\Anaconda3\lib\site-packages\pandas\core\groupby.py:4291: FutureWarning: using a
dict with renaming is deprecated and will be removed in a future version
  return super(DataFrameGroupBy, self).aggregate(arg, *args, **kwargs)
```



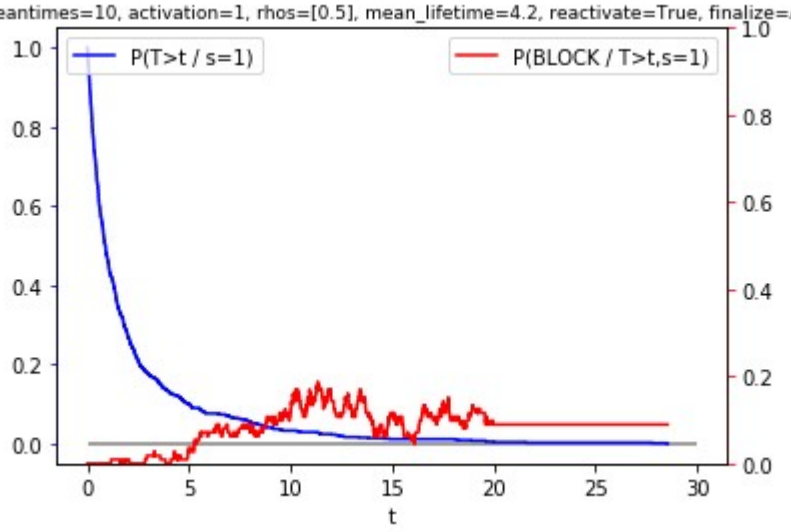


K=5, N=75, nmeantimes=10, activation=1, rhos=[0.5], mean_lifetime=4.1, reactivate=True, finalize=ABS, seed=1717

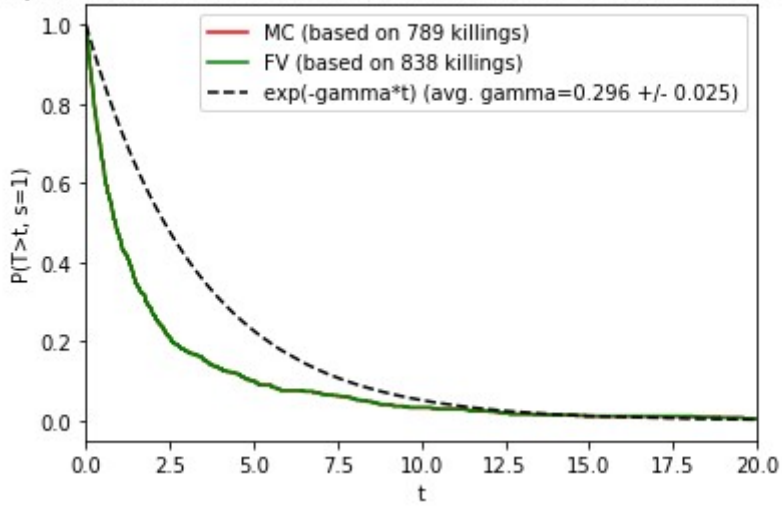




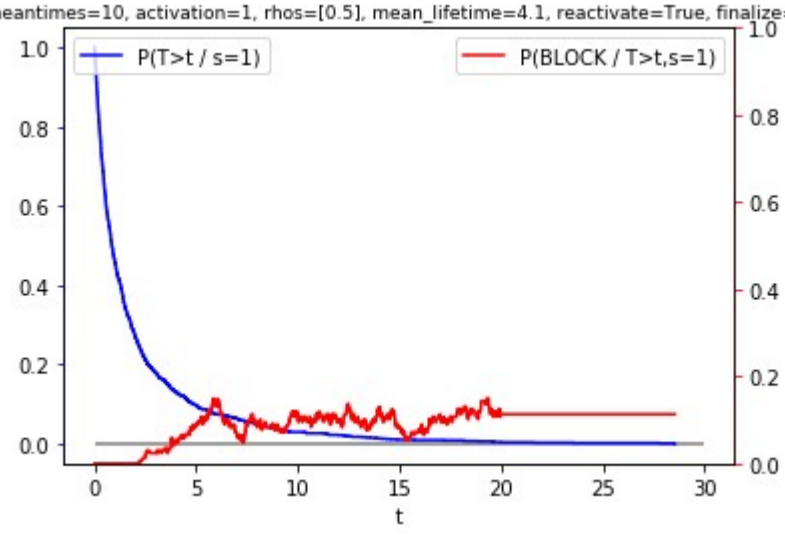
K=5, N=112, nmeantimes=10, activation=1, rhos=[0.5], mean_lifetime=4.2, reactivate=True, finalize=ABS, seed=1717



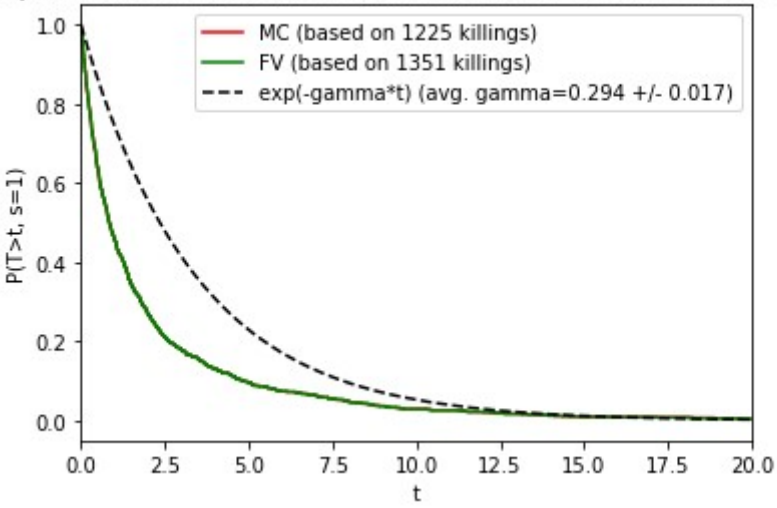
Comparison between the MC estimate and the FV estimate of P(T>t / s=1)



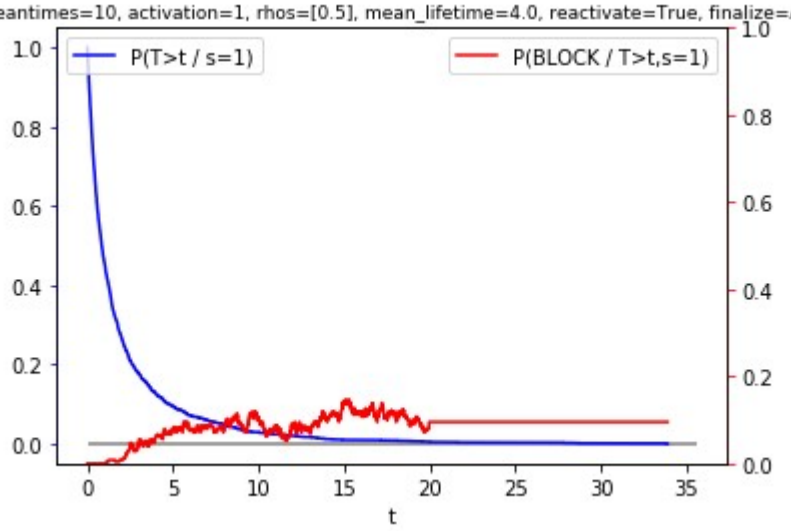
K=5, N=168, nmeantimes=10, activation=1, rhos=[0.5], mean_lifetime=4.1, reactivate=True, finalize=ABS, seed=1717



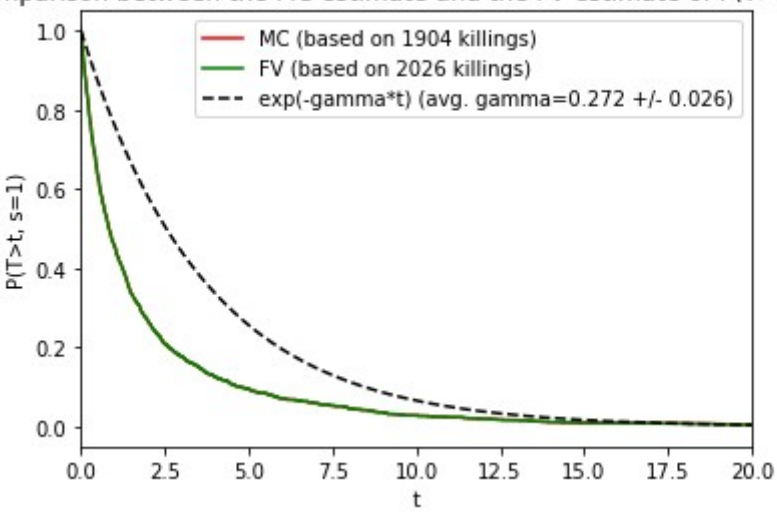
Comparison between the MC estimate and the FV estimate of P(T>t / s=1)



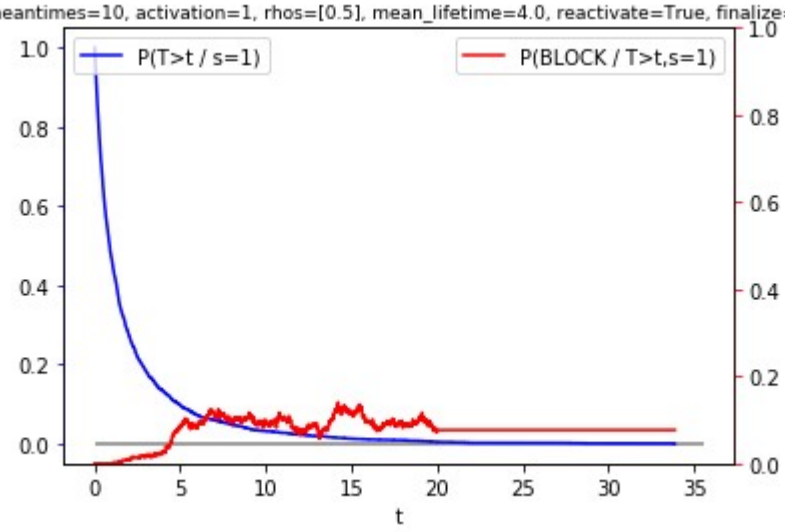
K=5, N=252, nmeantimes=10, activation=1, rhos=[0.5], mean_lifetime=4.0, reactivate=True, finalize=ABS, seed=1717



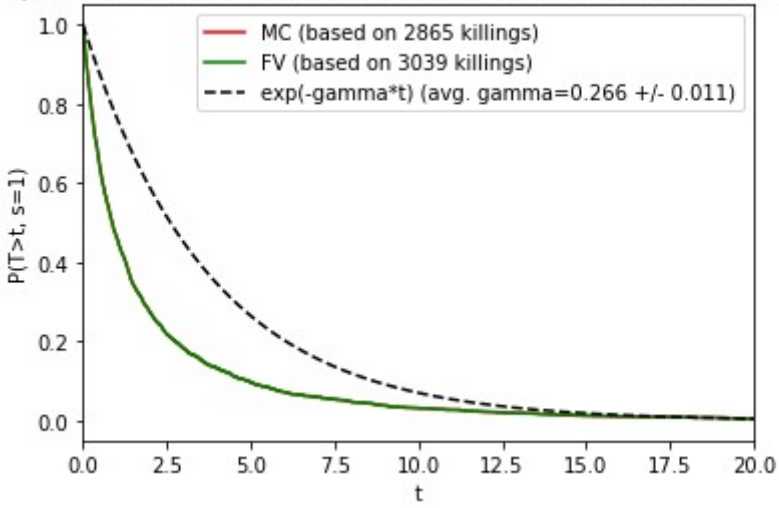
Comparison between the MC estimate and the FV estimate of P(T>t / s=1)



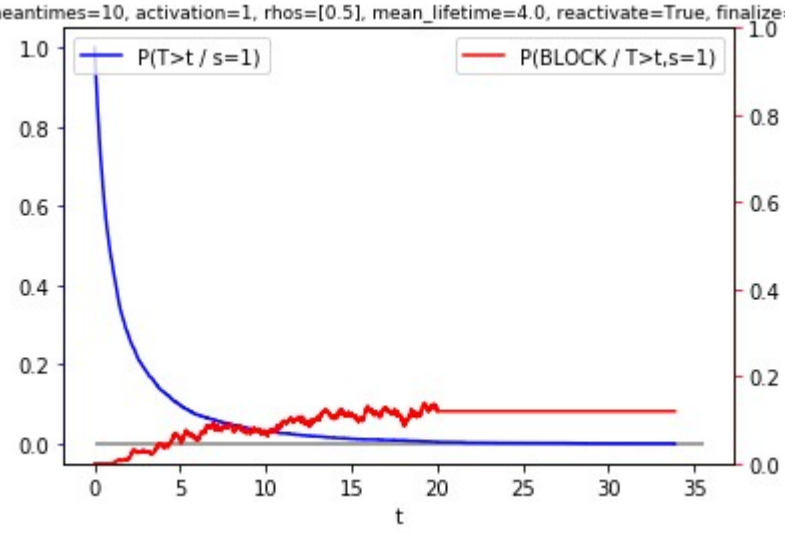
K=5, N=378, nmeantimes=10, activation=1, rhos=[0.5], mean_lifetime=4.0, reactivate=True, finalize=ABS, seed=1717

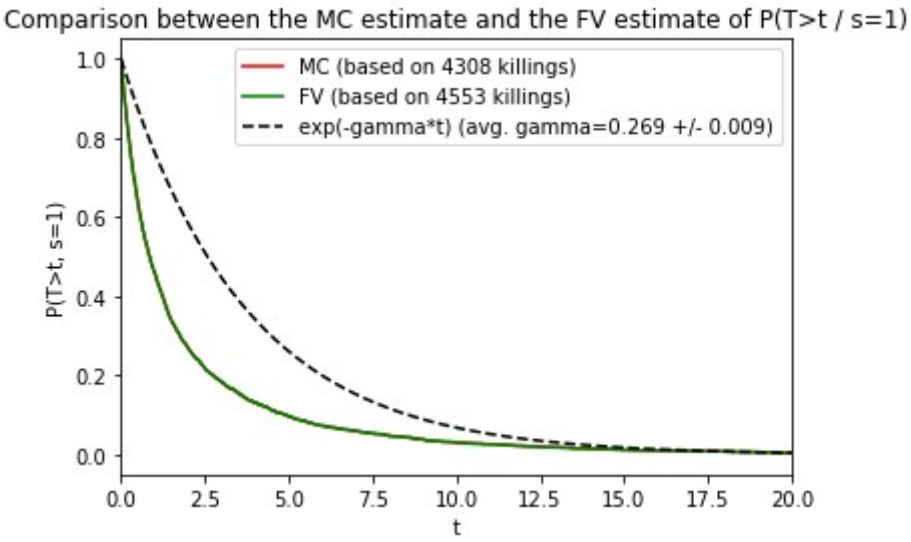


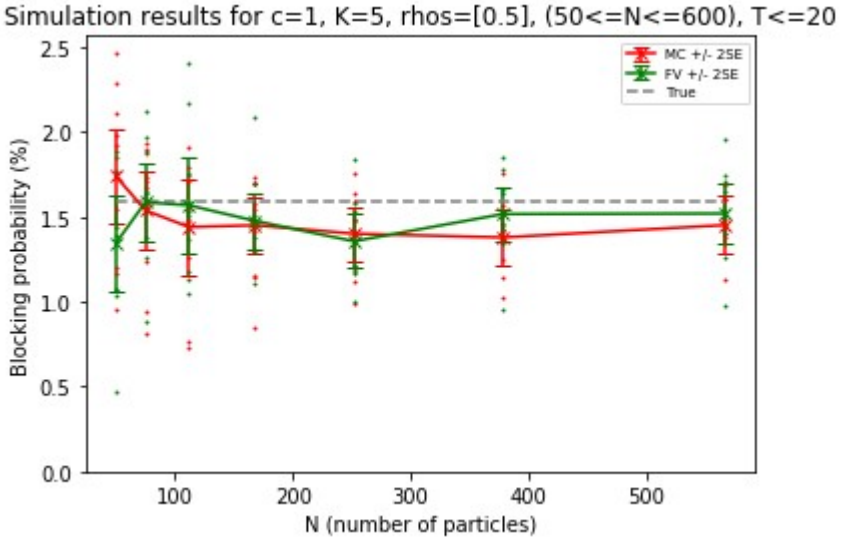
Comparison between the MC estimate and the FV estimate of P(T>t / s=1)



K=5, N=567, nmeantimes=10, activation=1, rhos=[0.5], mean_lifetime=4.0, reactivate=True, finalize=ABS, seed=1717




Comparison between the MC estimate and the FV estimate of P(T>t / s=1)
MC (based on 4308 killings)
FV (based on 4553 killings)
exp(-gamma*t) (avg. gamma=0.269 +/- 0.009)
P(T>t, s=1)
t
0.0
0.2
0.4
0.6
0.8
1.0
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0


Simulation results for c=1, K=5, rhos=[0.5], (50<=N<=600), T<=20
MC +/- 2SE
FV +/- 2SE
True
Blocking probability (%)
N (number of particles)
0.0
0.5
1.0
1.5
2.0
2.5
100
200
300
400
500

In [744]: