**CS 475/575 -- Spring Quarter 2021**

**Project #1**

**OpenMP: Monte Carlo Simulation**

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1. **Result**

Machine: OSU Engineering Server - flip2

The number of threads: 8

The number of trials: 500000

The probability of hitting the castle: **6.57%**

MegaTrials/sec = 48.26

1. **Graphs**
2. performance vs. number of trials

#of cores

**MegaTrials/Second**

**#of Monte Carlo trials**

1. performance vs. number of threads

**MegaTrials/Second**

#of cores

1. **Parallel Fraction**

Since 1-thread-to-8-thread **S** = 48.26 / 8.17 = 5.9

The Parallel Fraction (Fp) is (8./7.) \* (1.-(1/S)) = **0.95**