

Bar graph showing the frequency of the Goldbach prime number distances for the first 10,000 Goldbach triples, plotted using matplotlib on Google Colab

Goldbach Conjecture: Every prime number p is in a triple with two other prime numbers, q and r , such that:

$$r = q + (q - p)$$

Here, $(q - p)$ is the prime number difference

Summary statistics:

Average distance: 87.4

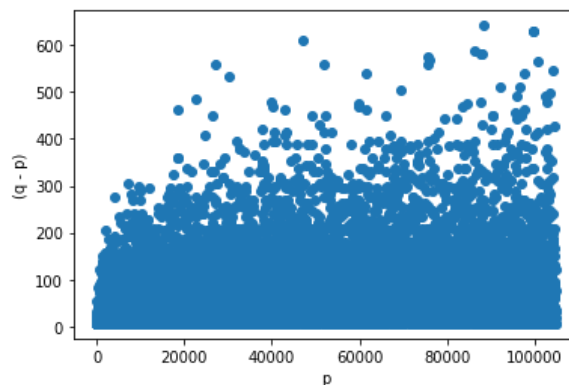
Maximum distance: 642

Minimum distance: 6

Mode distance: 30

Median distance: 66

Observation: Most of the prime number distances in the Goldbach Conjecture are between 6-100. There seems to be no positive or negative correlation between p and $(q - p)$. The distance seems to be flat (not increasing or decreasing), clustering around 6 and 300 and independent of p .



Scatter plot of p , the first prime number in the Goldbach triple, and the Goldbach prime number distance, $(q - p)$, of the first 10,000 Goldbach triples.