A table of numbers with black text

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A screenshot of a graph

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The analysis indicates that the Rayleigh distribution best fits the Target Absent (H0) data, while the Rician distribution best fits the Target Present (H1) data, as evidenced by the highest p-values from chi-squared goodness-of-fit tests. Visualized histograms, overlaid with their respective theoretical curves, confirm these fits. Bootstrapping results show that parametric bootstrapping yields a slightly higher mean and a lower standard deviation than non-parametric bootstrapping, suggesting more precise parameter estimation. Additionally, the area under the curve (AUC) values from parametric methods demonstrate marginally better model performance. Overall, these findings underscore the robustness of the Rayleigh and Rician distributions in modeling the respective target conditions.