

The NA62 experiment at CERN represents leading physics research of rare kaon decays. The NA62 aims to measure the $K^+ \rightarrow \pi^+ \nu \bar{\nu}$ decay branching ratio which is approximately 10^{-10} . Any significant discrepancy between the measured value and the Standard Model (SM) prediction would hint at physics beyond the SM. Other rare kaon and pion decays can also be studied at NA62. The measurements of neutral pion decays, such as the double Dalitz decay $\pi^0 \rightarrow e^+ e^- e^+ e^-$, provide important input to the theoretical modeling of form factor describing the π^0 decays and interactions. In 2017 – 2018, the NA62 experiment collected a large data sample (Run 1) of the K^+ decays with electron-positron pairs in the final state. In our analysis of the data sample, 1143 π^0 double Dalitz decays were identified. The measured branching ratio of the decay is inclusive of final state photon radiation and reads $B(\pi^0 \rightarrow e^+ e^- e^+ e^- (\gamma), x_{4e} > 0.9) = (3.12 \pm 0.17) \times 10^{-5}$. The result is compatible with previous measurements. The important part of the analysis is the study of five-track reconstruction efficiency in Run 1 data and simulated samples of five-track decays.