Dirac coupled channel analyses of the 800MeV proton inelastic scatterings from $^{22}\text{Ne}$ SUGIE SHIM, MOON-WON KIM, Kongju National University — Dirac analyses are performed for the 800MeV proton inelastic scatterings from an s-d shell nucleus $^{22}\text{Ne}$ using the optical potential model. Dirac coupled channel equations are solved numerically using the sequential iteration method by varying the optical potential and deformation parameters, using a computer code called ECIS. Dirac equations are reduced to obtain Schroedinger-like second-order differential equations and the obtained effective central and spin-orbit optical potentials are analyzed and compared with those of other s-d shell nuclei such as $^{20}\text{Ne}$, $^{24}\text{Mg}$ and $^{20}\text{Mg}$. It is found that relativistic analyses based on Dirac equation could describe the experimental data for the 800 MeV proton inelastic scatterings from $^{22}\text{Ne}$ reasonably well. The surface-peaked phenomena are observed for the real parts of effective central potentials for the scattering from $^{22}\text{Ne}$, as shown in the case of $^{20}\text{Ne}$ and $^{24}\text{Mg}$. Dirac phenomenological results for the deformation parameters for $2^+$ and $4^+$ states of $^{22}\text{Ne}$ agree well with the results of the nonrelativistic calculation using the same W-S potential shape.