

DEPARTMENT OF PHYSICS
OSAKA IMPERIAL UNIVERSITY.

DATE.....

NO.....

In Heisenberg's nuclear model the ^{and proton by} interaction between ^{the} neutrons ^{is} of importance and on the other hand Fermi's explained theory of β -disintegration the neutrino is supposed to be emitted ⁱⁿ simultaneously with the electron, ^{from the nucleus}

about hundred times of or larger as the electron mass and the elementary charge, obeying Bose's statistics. The problem β -^{has} disintegration ^{is either +e or -e} was treated ^{by the} assumption that the light particle can jump from a neutrino state of negative energy to a electron state of positive energy by absorbing ~~the~~ quantum with charge -e. The result ^{was} ^{very} approximately the same with that of Fermi, who treated the problem on the assumption of direct coupling between ~~the~~ heavy and light particles. The interaction of the quantum with the light particle should be far smaller than that with the heavy particle to account for the small prob. of β -disintegration as well as the large binding energy of the nucleus.