

F02020P01

DEPARTMENT OF PHYSICS
OSAKA IMPERIAL UNIVERSITY.

DATE.....

NO.....

In this paper the relation
~~In this~~ The gap between ~~the~~ Heisenberg's theory of the
nucleus and Fermi's theory of β -disintegration
was made more intimate by considering a
new sort type of field between neutron and
proton or neutrino and ^{describing the interaction} electron.
Only The interaction ^{corresponding} ~~corresponding~~ to Heisenberg's
'Platzwechsel' ^{was} ~~are~~ ^{concluded} ~~is~~ treated in this paper
and the tentative solution was ~~obtained~~ ^{reached}:
The interaction ^{conclusion} ~~can be~~ ^{could} be described
by considering a hypothetical quantum which
has the proper mass ~~of too tone~~ of about hundred
times of electrons mass and the elementary
charge and which obey's Bose's statistics.
The interaction of such a quantum with the
heavy particle should be far greater than
that with the light particle in order to
account for the large interaction binding
energy of the nucleus as well as the small
probability of β -disintegration. ^{at all}
The reason why such a quantum, if they ~~ever~~ exist,
have not been discovered, was discussed and
ascribed to ~~their~~ ^{the} large proper mass.

Author