

Cross Sections for (n,p) Reactions
on ^{27}Al , $^{46,47,48}\text{Ti}$, $^{54,56}\text{Fe}$,
 ^{58}Ni , ^{59}Co , and ^{64}Zn from
Near Threshold to 10 MeV*

by

Donald L. Smith and James W. Meadows

ABSTRACT

Cross sections for the $^{27}\text{Al}(n,p)^{27}\text{Mg}$,
 $^{46,47,48}\text{Ti}(n,p)^{46,47,48}\text{Sc}$, $^{54,56}\text{Fe}(n,p)^{54,56}\text{Mn}$,
 $^{58}\text{Ni}(n,p)^{58}\text{Co}$, $^{59}\text{Co}(n,p)^{59}\text{Fe}$ and $^{64}\text{Zn}(n,p)^{64}\text{Cu}$
reactions have been measured by the activation
method for neutron energies from near threshold to
 ~ 10 MeV. Measurements were made relative to the
 ^{235}U ($E_n \lesssim 4$ MeV) and ^{238}U ($E_n \gtrsim 4$ MeV) fission
cross sections using a fission detector neutron
flux monitor. The results are compared with repre-
sentative data from previously reported investiga-
tions. Tables of evaluated cross sections derived
from the present work are presented for use in ap-
plications.

* This work supported by the U.S. Atomic Energy
Commission.