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

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ABSTRACT

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

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