Πίνακας 2.1: ΘΕΡΜΟΔΥΝΑΜΙΚΑ ΔΥΝΑΜΙΚΑ και οι ιδιότητές τους.
Εσωτερική Ενέργεια (U) - Μονωμένο Σύστημα, Μικροκανονική Συλλογή
Ενθαλπία (H) - Ισοβαρές Σύστημα, Ισοβαρής Συλλογή
Ελεύθερη Ενέργεια Helmholtz (A) - Κλειστό Σύστημα, Κανονική Συλλογή
Ελεύθερη Ενέργεια Gibbs (G) - Ανοικτό Σύστημα, Ισόθερμη και Ισοβαρής Συλλογή

U			H		
$U(S,V,N)$	=	$TS+(-P)V+\mu N$	$H(S,P,N)$	=	$U-(-P)V$
$dU(S,V,N)$	=	$TdS+(-P)dV+\mu dN$	$dH(S,P,N)$	=	$d(U+PV)$
$dU(S,V,N)$	=	$TdS-PdV+\mu dN$	$dH(S,P,N)$	=	$TdS+VdP+\mu dN$
$\left(\frac{\partial U}{\partial S}\right)_{V,N}$	=	T	$\left(\frac{\partial H}{\partial S}\right)_{P,N}$	=	T
$\left(\frac{\partial U}{\partial V}\right)_{S,N}$	=	$-P$	$\left(\frac{\partial H}{\partial P}\right)_{S,N}$	=	V
$\left(\frac{\partial U}{\partial N}\right)_{S,V}$	=	μ	$\left(\frac{\partial H}{\partial N}\right)_{S,P}$	=	μ
$\left(\frac{\partial T}{\partial V}\right)_{S,N}$	=	$-\left(\frac{\partial P}{\partial S}\right)_{V,N}$	$\left(\frac{\partial T}{\partial P}\right)_{S,N}$	=	$\left(\frac{\partial V}{\partial S}\right)_{P,N}$
$\left(\frac{\partial T}{\partial N}\right)_{S,V}$	=	$\left(\frac{\partial \mu}{\partial S}\right)_{V,N}$	$\left(\frac{\partial T}{\partial N}\right)_{S,P}$	=	$\left(\frac{\partial \mu}{\partial S}\right)_{P,N}$
$-\left(\frac{\partial P}{\partial N}\right)_{S,V}$	=	$\left(\frac{\partial \mu}{\partial V}\right)_{S,N}$	$\left(\frac{\partial V}{\partial N}\right)_{S,P}$	=	$\left(\frac{\partial \mu}{\partial P}\right)_{S,N}$

A			G		
$A(T,V,N)$	=	$U-TS$	$G(T,P,N)$	=	$U-TS-(-P)V$
$dA(T,V,N)$	=	$d(U-TS)$	$dG(T,P,N)$	=	$d(U-TS+PV)$
$dA(T,V,N)$	=	$-SdT-PdV+\mu dN$	$dG(T,P,N)$	=	$-SdT+VdP+\mu dN$
$\left(\frac{\partial A}{\partial T}\right)_{V,N}$	=	$-S$	$\left(\frac{\partial G}{\partial T}\right)_{P,N}$	=	$-S$
$\left(\frac{\partial A}{\partial V}\right)_{T,N}$	=	$-P$	$\left(\frac{\partial G}{\partial P}\right)_{T,N}$	=	V
$\left(\frac{\partial A}{\partial N}\right)_{T,V}$	=	μ	$\left(\frac{\partial G}{\partial N}\right)_{T,P}$	=	μ
$\left(\frac{\partial S}{\partial V}\right)_{T,N}$	=	$\left(\frac{\partial P}{\partial T}\right)_{V,N}$	$-\left(\frac{\partial S}{\partial P}\right)_{T,N}$	=	$\left(\frac{\partial V}{\partial T}\right)_{P,N}$
$-\left(\frac{\partial S}{\partial N}\right)_{T,V}$	=	$\left(\frac{\partial \mu}{\partial T}\right)_{V,N}$	$-\left(\frac{\partial S}{\partial N}\right)_{T,P}$	=	$\left(\frac{\partial \mu}{\partial T}\right)_{P,N}$
$-\left(\frac{\partial P}{\partial N}\right)_{T,V}$	=	$\left(\frac{\partial \mu}{\partial V}\right)_{T,N}$	$\left(\frac{\partial V}{\partial N}\right)_{T,P}$	=	$\left(\frac{\partial \mu}{\partial P}\right)_{T,N}$