volume change is constant at fixed p and T, the isotherm of the second phase (ϵ - phase) can be easily found by shifting the first phase by the amount of the volume change (v_2-v_1).

TABLE VI

Physical Data for α - iron

Parameter	Values	Dimension	Reference
v_o (initial volume)	.1275	cc/g	(33)
α_1 (thermal expansion coefficient)	36.3×10^{-6}	$1/K^o(degK)^{-1}$	(33)
C_{v1} (heat capacity)	$.4447 \times 10^{-5}$	$Mbcc/g^oK$	(33)
p_M (transition pressure)	.130	Mb	(10)
$(dp/dT)_m$ (equilibrium)	-.000065	Mb/K^o	(10)
Δv (volume difference)	-.004	cc/g	(10)
a_1	1.667	Mb	(32)
a_2	3.4	Mb	(32)
a_3	0	Mb	(32)
Γ	1.6	. . .	(34)
$C_{v,m}$	$.46 \times 10^{-5}$	$Mbcc/g^oK$	*
T_o	300^oK	^oK	

*See Appendix III.

Once the equation of state is known, the expression for α^{eq} can be easily found from Eq. (4.4), which includes the room temperature approximation for $v_1(T)$. Suppose we specify the room temperature transformation by the isotherm AB in Fig. 4.1;

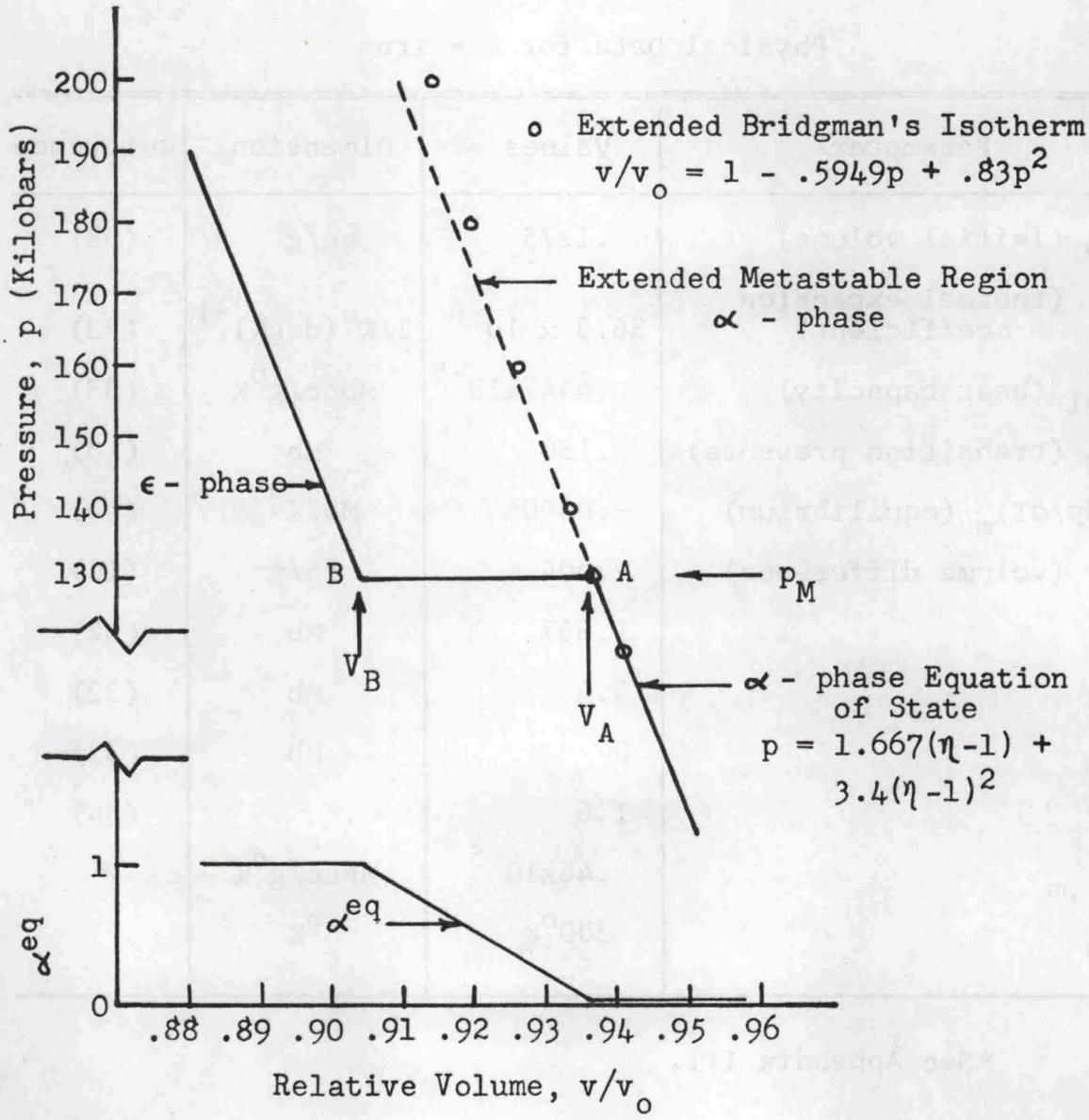

Fig. 4.1--Temperature Independent Equation of State of Iron and α^{eq}