S a a (Ga,M

$\Delta H(x)$ 0 [illegible]

[illegible] (3) [illegible]

[illegible] (111)

$$(111) < (100) < (110) < (201). \quad (3)$$

[illegible] $\Delta H(x)$ [illegible]

$$\Delta H(x) = \Omega_1 x(1-x) + \Omega_2 x^2(1-x) + \Omega_3 x^3(1-x)\cdots \quad (4)$$

$\Omega_1 = 2\cdot3$ [illegible], $\Omega_2 = -3\cdot0$ [illegible], $\Omega_3 = 23\cdot$ [illegible]

[illegible] E [illegible] E [illegible] $)_1/($ [illegible] $)$ [illegible] (100) [illegible] $x = 0.$ [illegible] $,1$ [illegible] $= 1,2,\ldots,$ [illegible] $x = 1$ [illegible] $x = 0.$ [illegible] $\{J\})$, [illegible]

II. METHOD OF ESTABLISHING THE CLUSTER EXPANSION

[illegible] [1] $\Delta\hat{H} = \Delta H - E$ [illegible] $\Delta\hat{H}$,

$$\Delta\hat{H} = \Delta H - E = J_0 + (2x-1)J_1 + \sum J D \Pi(\sigma) + \sum J D \Pi(\sigma). \quad (\ )$$

[illegible] ( ) [illegible] J [illegible] D

$$\sum_{\notin} |\Delta\hat{H} \quad \Delta\hat{H}|^2 + \frac{}{\alpha}\sum J(\;)(\;\square^2)^{/2}J(\;)$$

$$/ \sum_{\notin} |\Delta\hat{H} \quad \Delta\hat{H}|^2 + \frac{}{2\alpha}\sum D J^2,$$

( )

[illegible] J [illegible] α [illegible] [1]

F [illegible] $\mathcal{O}(10^2)$ [illegible] [24] ( ) [illegible] ( ) [illegible] ( ) [illegible] ( ) [illegible]

$$ \sqrt{\frac{\sum_{\sigma/1} |\Delta\hat{H}(\sigma). \ \Delta\hat{H}(\sigma)|^2}{}}, \qquad (12) $$

/ . 0 2 , / 1.34 /

4

1. /

$4\times4\times4$

/ . 0 2 . ΔH / 2 .04 , ΔH / 2 .4

[32] ( ). -14,

( ) ($)_2$ (301)

/ . 0 2 . H

0. 0.2

$\Delta H(\sigma)$,

$$ \Delta H(x) / \langle \Delta H(\sigma) \rangle. \qquad (13) $$

ΔH / 41.32 , ΔH / 40.04 .

x 0. , 1.

x

$(\ )_1/(\ )_3$ (100)

(110) (3 3,). 3

ΔH / 22.33 , ΔH / 23.00

3 ΔH / 30.00 , ΔH / 32.04 .

( ) ( )

2 ,

C. T a a

1. (13).

x/ 0.

(4) Ω_1/ 2 3 , Ω_2/

. 3 0 , Ω_3/ 23 .

(4) [33] 1.

$$ \Delta G(x) / \ \Omega_1 x(1. \ x) + \Omega_2 x^2(1. \ x) + \Omega_3 x^3(1. \ x) + \cdot [x (x) + (1. \ x) (1. \ x)], \qquad (14) $$

.

where·

D. $T=0$ a a a

/ + 20 / . $\approx 3\times 10$ ▼ ( )

E. S a

▼ ( ).

[illegible] $)_1/($ [illegible] $)$

[illegible] (100) [illegible] (111) [illegible]

[illegible] 2. [illegible]

(110) [illegible] (201)

11. [illegible]

[illegible] $($ [illegible] $_{1.}$ [illegible] $)_1/($ [illegible] $)$

$x/$ 0. ,0.2 [illegible] $/$ 1, …, , [illegible]

(100), (111), (201). [illegible]

[illegible] (3) [illegible]

[illegible] $($ [illegible] $_{0.}$ [illegible] $_{0.}$ [illegible] $)_1/($ [illegible] $)$ [illegible]

[illegible] 2 [illegible] (100) [illegible] (111) [illegible]

11 [illegible] (201) [illegible]

[illegible] $($ [illegible] $_{0.}$ [illegible] $_{0.2}$ [illegible] $)_1/($ [illegible] $)$ [illegible]

F. E [illegible] **a** [illegible] **a** [illegible] **a**

[illegible] 10 [illegible] E [illegible] E [illegible]

( )$_1$/( ) ,

(0. 0)$_1$/( )

11 ( )

4 $_B$

(100), (110),

(111)

( )$_2$( )$_1$ ( )$_4$( )$_1$,

(201)

(201)

0.3

0 2 0 2 0 2 0 2 -434. -434. .1 3-434. 3-434. 2

4 4 -33 - .1 2 -1.1 / 1 1.040 0 / 3 1 0.3 2 0

22 0 22 0. +04 123 - .3 - 10 2 / 1 * 442 11 1.42 1 0 0 / 3 1

(