




no ^{1,2}, n Zh o,² o . D n ¹ n x Z n ²
¹*Institute of Physics, University of São Paulo, São Paulo 05508-090, São Paulo, Brazil*



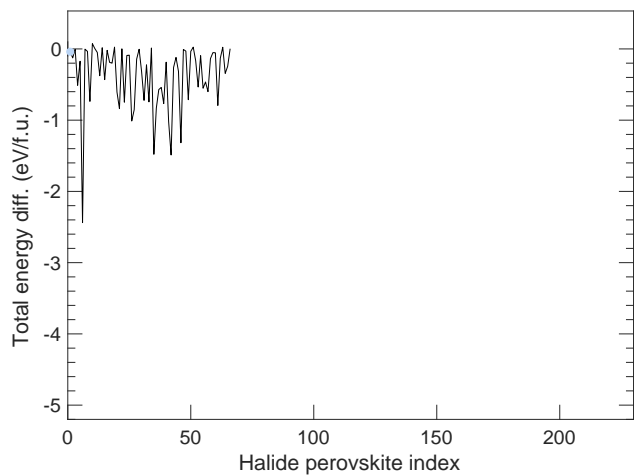
O, ZH O, D N, N DZ N, H Y V

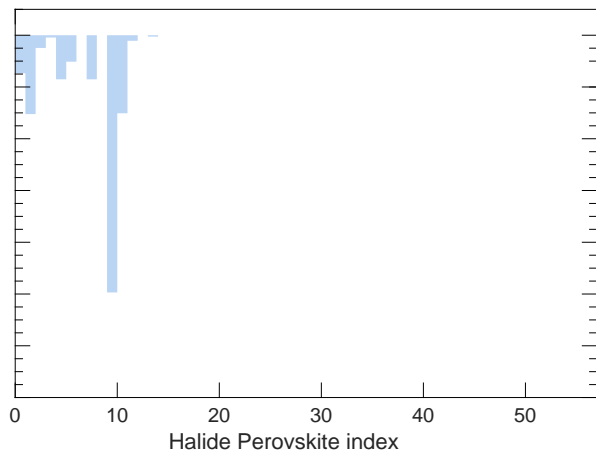
o n o h on, ono o ho o o o ho , n h h n on o no o h n-o . n n h
 ho h on n h o n x n , h o (n) n o on (n on).

	n (V)		M		x .
	ono o ho	o o ho	ono o ho + O	o o ho + O	
3	2.2 (-2.67%)	3.35 (11.67%)	1.78 (-4.67%)	2.27 (-24.33%)	3.00
3	2.41 (8.07%)	2.87 (28.70%)	1.25 (-43.5%)	1.7 (-1.73%)	2.23
3	2.00 (15.61%)	2.46 (42.20%)	0.77 (-55.4%)	1.35 (-21.6%)	1.73
n 3	1.56 (-46.21%)	2.38 (-17.3%)	1.17 (-5.66%)	2.13 (-26.55%)	2.0
n 3	1.10 (-38.8%)	1.81 (0.56%)	0.70 (-61.11%)	1.53 (-15.00%)	1.80
n 3	0.81 (-37.6%)	1.50 (15.38%)	0.37 (-71.54%)	1.18 (-.23%)	1.30
3	1.13 (-52.52%)	1.56 (-34.45%)	1.02 (-57.14%)	1.45 (-3.08%)	2.38

- n 44 .
- n 45 .
- n 46 .
- n 47 .
- n 48 .
- n 4 .
- n 50 .

h o k n o h n -
 on, h h n o n - on n
 . n . on h o
 k n n h o o ho on, not n n h
 o O , n o h h h
 n ono o ho h h- on on (Pm-3m).
 n . x n h o O n h n
 o Pm-3m n (ono o ho), not n n
 h k n . n . h
 o k n and O n h n o h
 o k , . . , o h n n o . h





M O YMM Y N⁻ N^{-D} N^{-O}

H
Y V

110, 035160 (2024)

- 32 .O o o, . . . o, . n , . . no,
 n D. - o nho, o h o o h n -
 on h on o o no n
 h o k , J. h . h . 126, 2131 (2022).
- 33 O. Mh X Zh o, n . Z n , n n n
 O₃, - V k n M_n, h . M_nO₃ o k
 .7, 074406 (2023).
- 34 O. n M_YN O₃ n . Z n , n M_o M_o n n