electrons/atoms or 7/3 is greater than those characteristic of the more common β, γ or ε phases. The only intermetallic compounds heretofore described as having the CaF_2 structure are Mg_2Si, Mg_2Pb and Mg_2Sn. These compounds seem to have at least some of the peculiarities noted in $AuAl_2$.

Summary: The purple compound $AuAl_2$ has most probably the CaF_2 structure with $a = 6.00$.

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On the High Temperature Modification of *CsCl*.

By **C. D. West** in Cambridge (Mass.).

Three powder photographs *CsCl* were taken in *Mo* radiation at different temperatures. The lattice constants, reliable to about .02 A, are: at 25° $a = 4.09$, distance *Cs—Cl* $d = 3.54$, volume $V = 68$; at a temperature below the transition at 460° $a = 4.20$, $d = 3.64$, $V = 74$; at a temperature above the transition there is present a cubic phase having the *NaCl* structure with $a = 7.08$, $d = 3.54$, $V = 79$. Thus on heating through the transition, d decreases by about 3%, a figure that has been observed in a number of similar instances; V increases as in the corresponding transitions in the ammonium and rubidium halides, and thus as with these substances the transition temperature will increase with increasing pressure.

The foregoing is in agreement with the recently reported work of Wagner and Lippert[1]), who found $a = 7.10$ for the *NaCl* cubic phase.

Powder lines of *CsCl* at 500°.

hkl	a	Intensity	*hkl*	a	Intensity
111	7.15	5	400	7.08	1[2])
200	7.10	5	331	absent	
220	7.08	5	420	7.06	1
311	7.09	2	422	7.08	0.5
222	7.09	3[2])			

There is no experimental work on the question whether *CsBr* and *CsI* have similar transitions. By analogy to the *Rb* halides it would be predicted that *CsBr* and *CsI* would invert, if at all, at a higher temperature than *CsCl* at any given pressure; in fact some photographs of mine show the absence of any inversion in *CsBr* and *CsI* at a temperature above the transition temperature of *CsCl*. With the ammonium halides the reverse order is found, the iodide having the lowest transition temperature at any given pressure.

Summary: — At 500° *CsCl* has the *NaCl* structure with $a = 7.08$.

1) G. Wagner, L. Lippert, Z. physik. Chem. **21** B, 471. 1933.

2) Coincidence with a reflection from the heating coil.

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