a
b
c

One of the x-ray photographs. a) Before the application of pressure; one can see the spots due to beryllium; b) under a pressure of 18,900 kg/cm^2; the third line belongs to the new phase (110); c) after relief of pressure.

Results of Indexing

I	θ	$\sin^2\theta$	d	hkl	a, A
Medium	8°28′	0.0217	2.42	110	3.42
Weak	12 23	0.0460	1.66	200	3.32
Weak	13 26	0.0540	1.53	210	3.42
Weak	14 12	0.0602	1.45	211	3.55
Weak	17 34	0.0911	1.18	220	3.34
Very very weak	19 02	0.1062	1.09	300	3.27
				221	
Very weak	20 30	0.1226	1.02	311	3.38
Very weak	21 24	0.1331	0.98	222	3.39

$a = 3.39 \pm 0.06$ A

NaCl phase: a = 3.35 A. This value is in good agreement with that found experimentally. The high-pressure phase of NaCl is usually preserved after the removal of pressure, which indicates an exceptional laxness of the transition. This assumption is confirmed by the fact that no more than 5% of the substance undergoes transformation during 10-20 hours (photographing time). It is also possible that deformations due to slip, occurring as the consequence of the method used, play an important role in the transformation.

All these considerations explain why Bridgman [6] did not observe any transformation in NaCl up to 10^5 kg/cm^2.

These results concerning the phase transformation in NaCl are preliminary; more detailed results will be published later.

To conclude, we would like to note that the phase transformation observed in NaCl under pressure is an additional example of the transformation of ionic crystals with face-centered cubic structures into body-centered structures, as in the case of rubidium and potassium halides.

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