

1. Assuming the correctness of the boundary separating phases II from III, as established by Bridgman[17] and by the results shown in Fig. 10 of this paper, and that the width of the phase IV field is less than 100 bars as suggested above, he supposed but unplotted phase II-IV boundary would be vertical or very steep and would plot at about 3000 bars at room temperature. Such a boundary would not extrapolate to natural environmental temperatures (warmer than -60°C) at atmospheric pressure.
2. The present data indicates that the cubic form of AgI (II') will not transform to phase IV. All runs of fine-grained AgI contained some phase II' (cubic) as well as II (hexagonal) and only partial conversion to phase IV was accomplished. Large solution-grown hexagonal crystals were used in the optical and coarse-grain X-ray runs where nearly complete to complete transformation was accomplished. Under these conditions very little phase IV could form in natural aerosols even if the II stability was appropriate because AgI generator output is primarily cubic AgI (II') (a fact verified in this laboratory).

Figure 10 gives us some information about the rate constants for the forward and reverse process in the II to III transformation. If the rates for each process were identical, the phase boundary would fall exactly halfway between the +30 min 20 per cent

isocron and the -30 min 20 per cent isocron. In view of the position shifted toward the +30 min 20 per cent isocron, it follows that the forward process (conversion to III) is more rapid than the reverse. Because this phenomenon is present at higher temperatures as well as below 30°C , the rate difference must be due to different II-III activation states rather than to the presence of phase IV.

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