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It will be noticed that the theoretical absorption bands are considerably sharper than those actually observed. This is probably due to the fact that in the theory we are dealing with ideal spherical particles all of the same size, while in practice deviations from ideal conditions will almost certainly take place. However, the general agreement is fairly good, and the theory suggests that the particle size is of the order of 100 Å.

When a crystal which has been partially decomposed with ultra-violet light only is irradiated with infra-red light for 2 hours, the absorption band in spectrum A shifts from 4000 Å to about 5200 Å. The absorption band in spectrum B, however, is not significantly altered. After this treatment the crystal is strongly dichroic. Rogers and Sawkill (unpublished work) obtained a similar result by irradiating an undecomposed crystal with the full output of the mercury lamp.

If the heating effect of the infra-red light causes coagulation of the silver nuclei, we should expect the absorption band to shift to longer wavelengths in both spectra. It is not understood why this is not observed. A shape effect may be operating.

An electron microscope study of the physical changes taking place during the decomposition of a number of metallic azides is being made at present, and it is hoped that this will give more information regarding the shape and size of the metallic nuclei.

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## Melting Curves of Helium and Hydrogen Isotopes

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Mills and Grilly (1955) have recently determined the melting curves of $^4$He and $^3$He over a considerable pressure range. For $^4$He their results agreed with previous measurements of Simon and his collaborators (Holland *et al.* 1951, Dugdale and Simon 1953) and on fitting the data to a Simon melting curve

$$P=\alpha+\beta T^c, \qquad \ldots\ldots(1)$$