Errata

Erratum: Phase transitions in InSb at pressures up to 5 GPa [Phys. Rev. B 47, 35 (1993)]

R. J. Nelmes, M. I. McMahon, P. D. Hatton, J. Crain, and R. O. Piltz

Some of the features in the two-dimensional images published as part of this paper were not visible. Those images are republished here.

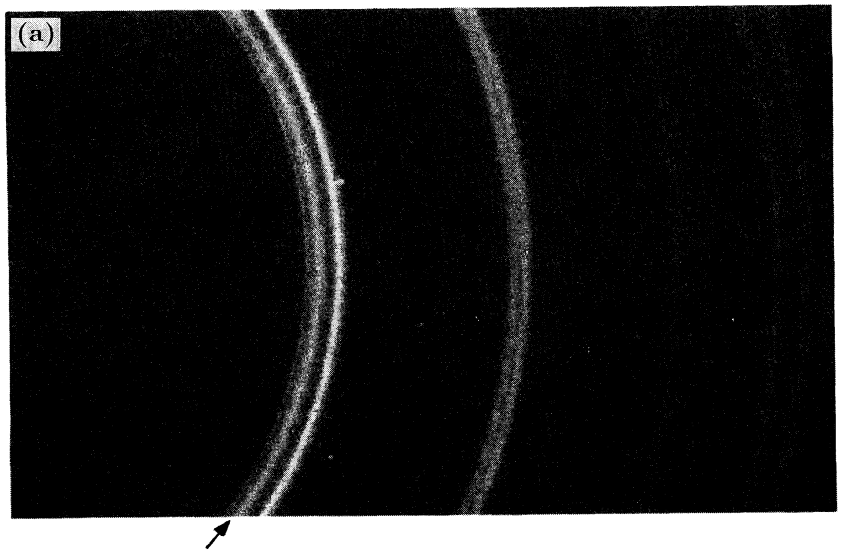

FIG. 3. (a) A pattern recorded from a mixture of InSb $P2$ and $P3$ at, or slightly above, the pressure in Fig. 2. The arrow marks the first line of one phase ($P3$). The adjacent broader lines are the first two of the second phase ($P2$). $\lambda = 0.4442$ Å. Exposure time = 10 min. Sample-to-plate distance = 350 mm. (b) The corresponding integrated profile. The asterisks mark the sharp-peaked features of $P3$. The inset displays the first three peaks on the same 2θ scale as in the inset of Fig. 2.

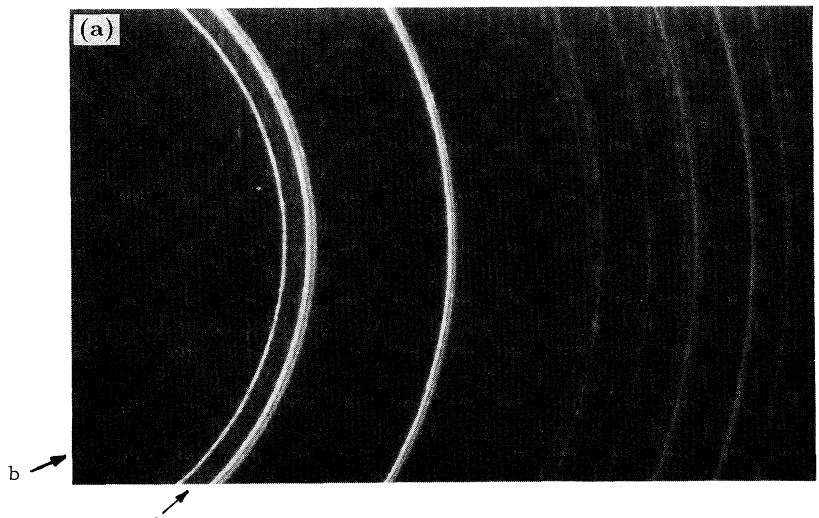

FIG. 4. (a) A pattern recorded from a mixture of InSb $P2$ and $P3$ at, or slightly above, ~2.1 GPa. The lowest-angle strong line of $P2$ is labeled "a" and the very weak low-angle line of $P3$ is labeled "b." $\lambda = 0.4446$ Å. Exposure time = 14 min. Sample-to-plate distance = 250 mm. (b) The corresponding integrated profile. The arrows below the profile mark the two nonoverlapped $P2$ lines (the one at $2\theta \sim 9°$ is marked "a" in the 2D pattern). The features marked Δ and * [inset (i)] are discussed in the text. Inset (ii) shows the very weak low-angle line of $P3$ (marked "b" in the 2D pattern) recorded with an incident energy of 25.83 keV, far (f) from the In K edge (as in the main profile), and at 27.886 keV near (n) the In K edge (at 27.925 keV). Inset (iii) shows the cubic (200) reflection recorded with the same two incident x-ray energies as for inset (ii).

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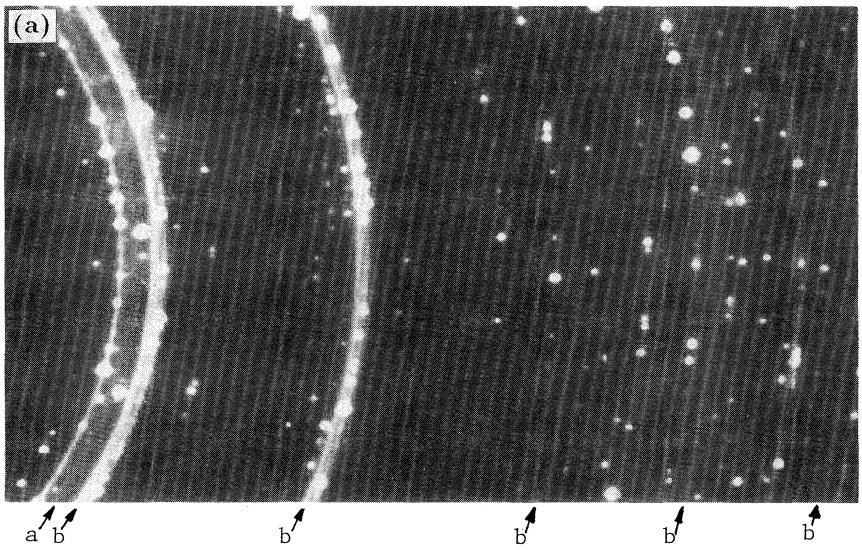


FIG. 6 (a) A pattern recorded from a sample of InSb $P3$ partly transformed to $P4$ just above 2.1 GPa. Some $P2$ is also still present, as shown by the line labeled "a." The $P3$ lines labeled "b" are not overlapped by any $P4$ lines, and hence are free from spots. $\lambda=0.4446$ Å. Exposure=10 min. Sample-to-plate distance=250 mm. (b) The corresponding integrated profile. Asterisks mark the strongest of the nonoverlapped $P3$ lines, labeled "b" in (a). The low-angle weak line of $P3$ is enlarged in inset (i), with a weak $P4$ line alongside. Inset (ii) shows the part of the profile below $2\theta=15°$, with the best-fitting calculated $P3$ profile subtracted to reveal the main $P4$ lines.

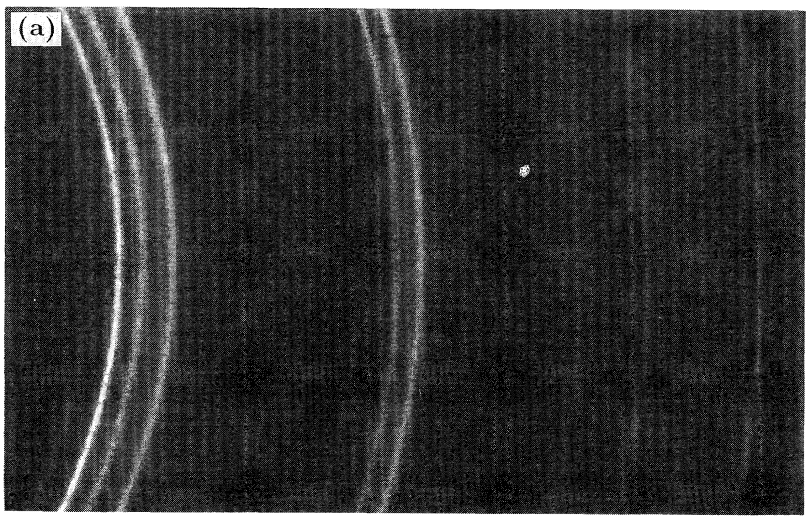


FIG. 8 (a) A pattern recorded from InSb $P4$ at ~3 GPa, just above the transition directly from the cubic phase. $\lambda=0.4446$ Å. Exposure time=42 min. Sample-to-plate distance=250 mm. (b) The corresponding integrated profile. The insets show parts of the profile enlarged, as indicated. The arrow below the main profile indicates a weak non-$P4$ line. The marked features in the insets are discussed in the text.

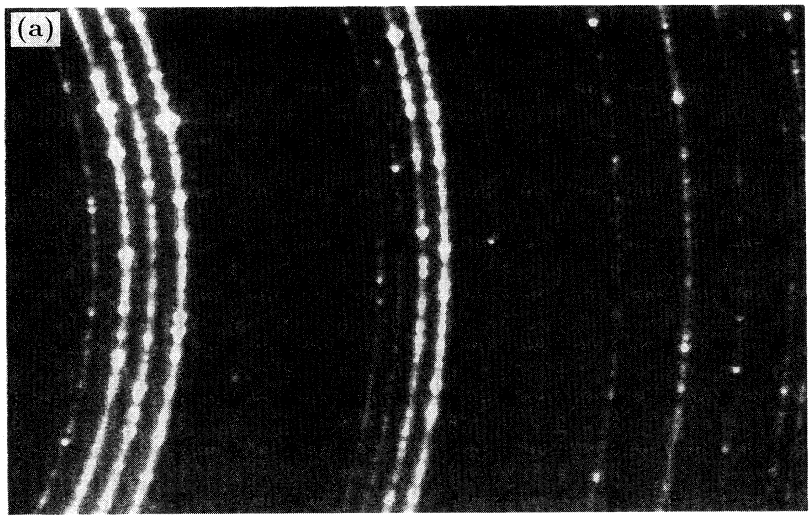


FIG. 9 (a) A pattern recorded from InSb $P4$ at ~ 2.5 GPa and 100 °C. $\lambda = 0.4642$ Å. Exposure time = 146 min. Sample-to-plate distance = 250 mm. (b) The corresponding integrated profile. Inset (i) shows a weak low-angle line recorded with an incident x-ray energy of 26.709 keV, far (f) from the In K edge (as in the main profile), and at 27.886 keV, near (n) in the In K edge at (27.925 keV). The enlargement in inset (ii) reveals many weak superlattice reflections, marked Δ. Two of these are enlarged further in inset (iii), recorded far from and near the In K edge as in (i).

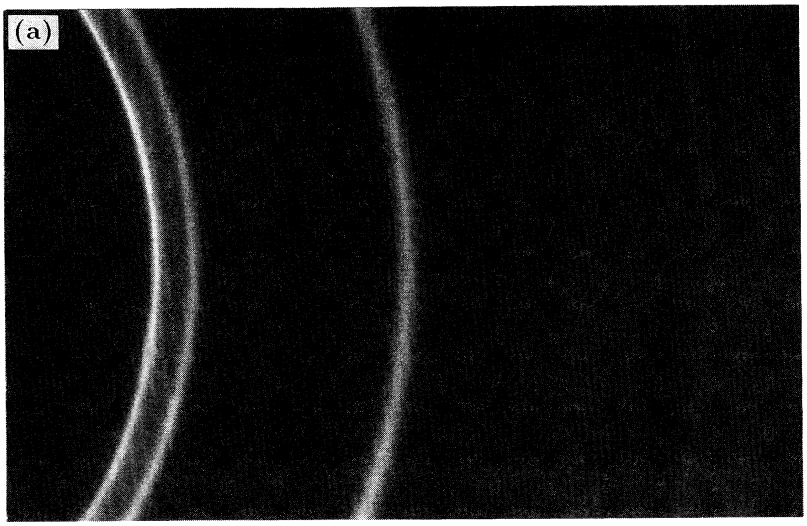


FIG. 12. (a) A pattern recorded from InSb at about 2.3 GPa after passing rapidly through the transition. $\lambda = 0.4442$ Å. Exposure time = 51 min. Sample-to-plate distance = 200 mm. (b) The corresponding integrated profile, and its subsequent evolution over a period of 2 days. The triangles under the intial profile show the positions of the principal β-tin lines. The one marked by a solid triangle at $2\theta \sim 22°$ is the nonoverlapping $P2$ line indicated at the same position in Fig. 4(b). The weak low-angle is enlarged in the inset.

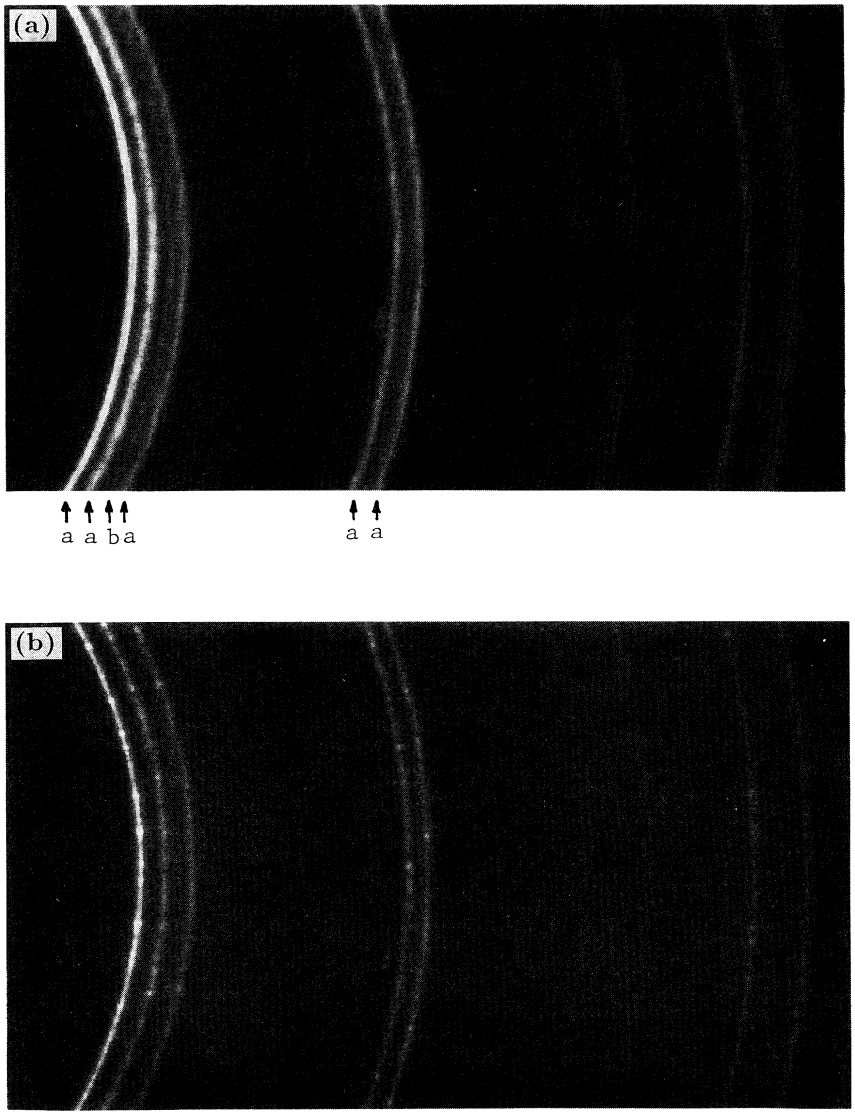
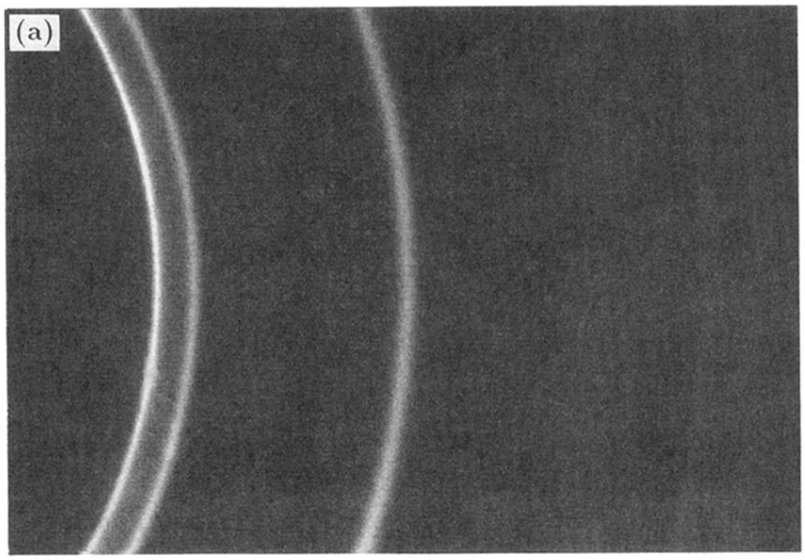


FIG. 15. (a) A mixed $P3$-$P4$ pattern recorded from InSb after passing through the transition at ~ 3.0 GPa. The strongest $P4$ lines are labeled "a," and the single visible $P3$ line is labeled "b." $\lambda = 0.4446$ Å. Exposure time = 26 min. Sample-to-plate distance = 250 mm. (b) A pattern recorded from the same sample 15 h later, after $P3$ has recrystallized to $P4$. $\lambda = 0.4446$ Å. Exposure time = 42 min. Sample-to-plate distance = 250 mm.



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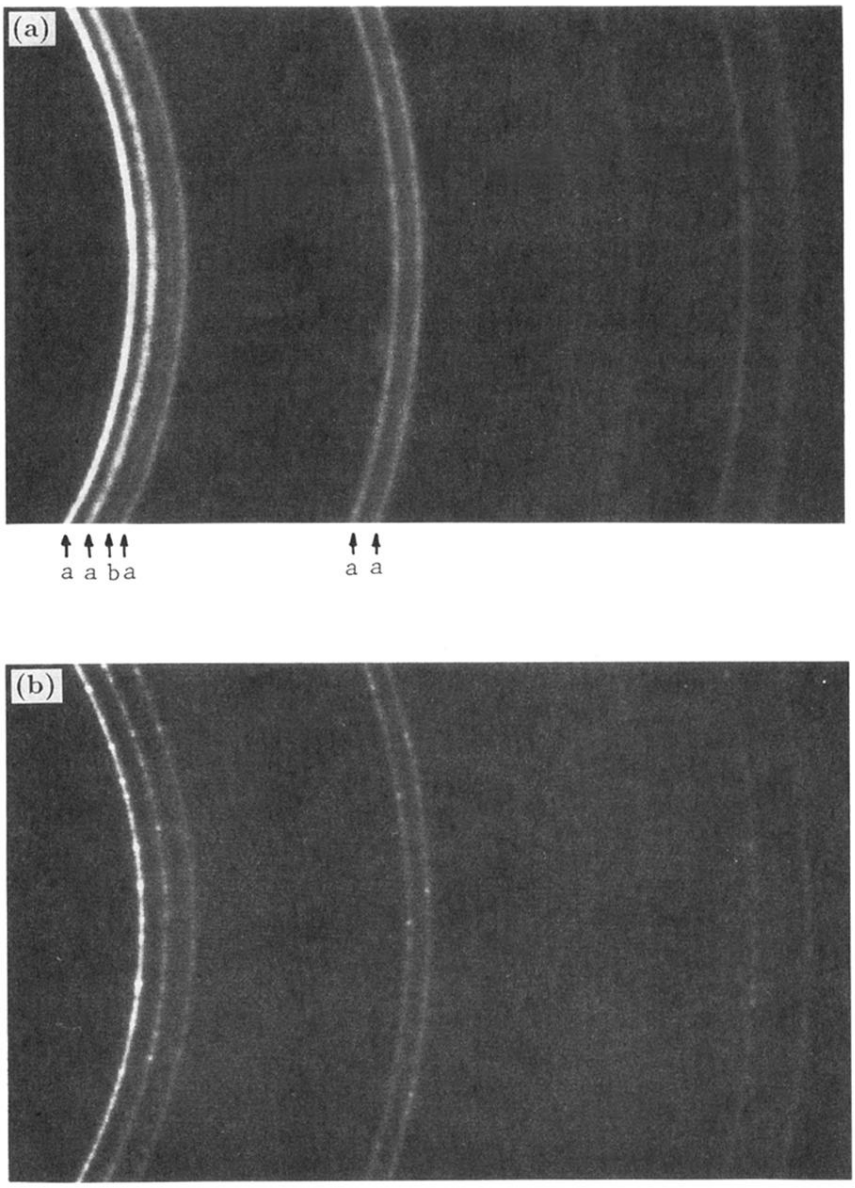

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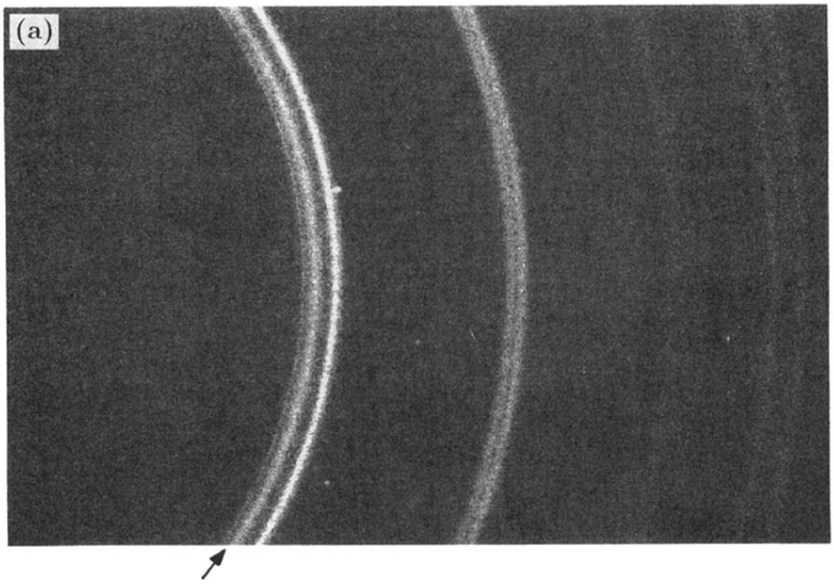

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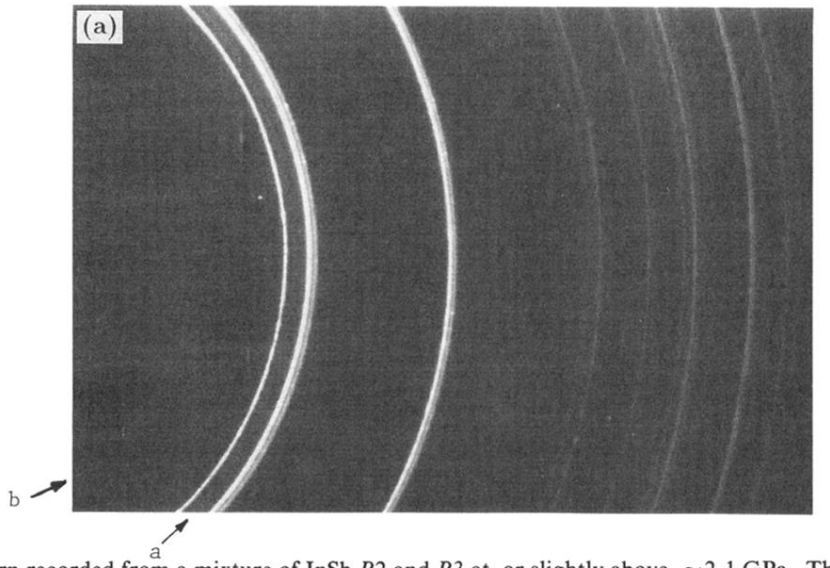

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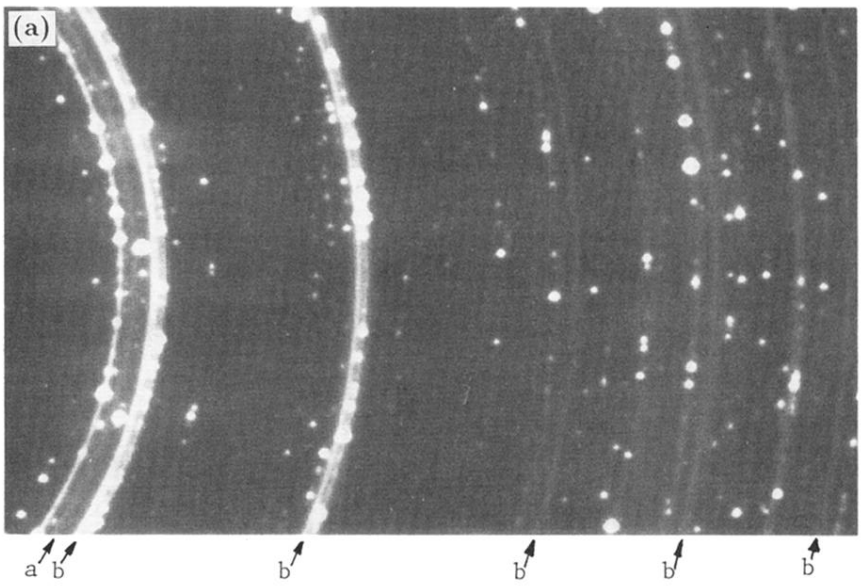

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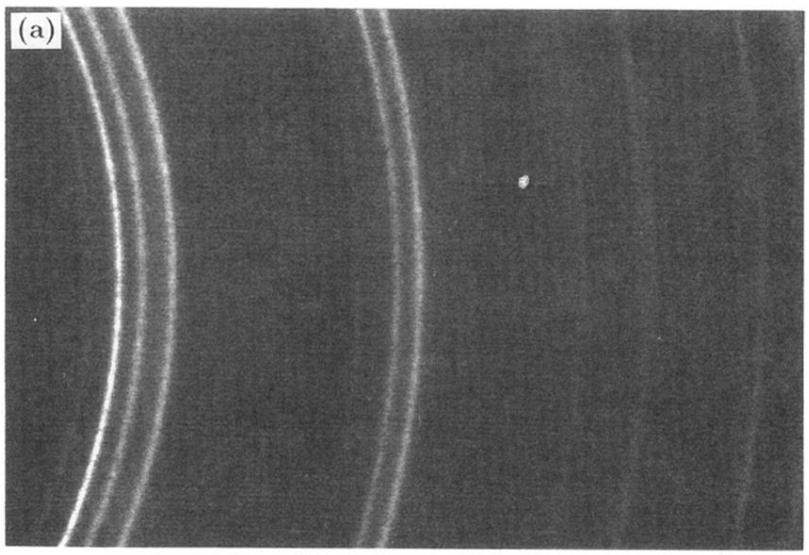

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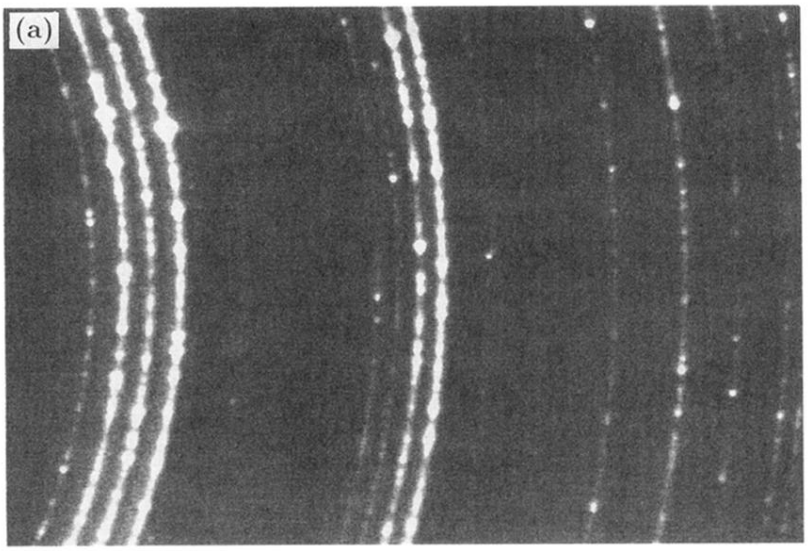

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