

Study of the reflection present in the three photographs, and one equi-inclined
 Weissenberg photograph which will give the general "line" reflection, will settle the
 nature of the lattice. Hence the space group will be finally settled. I hope in
 a month's time it will be finished. Next task will be to go on with
 calculation of structure factors and structure analysis. At present, Mr. Sharan
 is working with a big lump of crystal. In x-Ray-Crystallography, nobody works with
 a big lump like that. For structure determination, the crystal has to be broken
 a crystal of a size 0.5mm by 1mm has to be selected and again set along different axes
 and photographs taken.

I think after the preliminary part is finished, I will have the opportunity to proceed with
 my crystal. Any way in helping Sharan and associating myself with his work, I
 am gaining new experience, as I had not the opportunity to work with a trigonal or
 hexagonal crystal system. I welcome this opportunity of associating myself with the work
 and still more towards the final structure determination of this crystal. I hope in this, I have
 your permission.

My official permission from dated 9.11.55 to work in N.R.L. is still lying with Director, D.A.R.S. He is
 thinking over the matter. It may be delayed. Pending that, I hope you will permit me to work as I am
 doing. with my regards. Srs

Yours faithfully
S. C. Das
 Sc. Dem.

← पहला मोड़ →

भेजने वाले का नाम और पता :-



↑ तीसरा मोड़ ↓

Dr. K. S. Krishnan
 Director, National Physical Laboratory of India
 National Physical Laboratory
 New Delhi 12.



अन्तर्देशीय पत्र
 इस पत्र के अन्दर कुछ न भरविये



← दूसरा मोड़ →

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From. S.C. Das,
9. A. R. S. New Delhi

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Calcutta 9.
25. 9. 56.

To
Dr K.S. Krishnan F.R.S.
Director. I.P.L.
New Delhi/2.

OK

30 JUL 1956

Dear Sir

I had to leave for home, i.e. Calcutta on account of sudden death of my elder brother. I am very unfortunate that I could not see you before I left Delhi. I shall be returning to Delhi on the end of August and hope I shall have the opportunity to see you then.

As regards the work, I have not yet been able to start work with my crystal, i.e. margarite, as the Weissenberg goniometer is still engaged with the work of Mr. Sharan, who is working on Aluminium phosphate. I am helping him so that he can finish the preliminary part of the structure work, i.e. to find out the cell dimensions and the space group symmetry of the crystal as soon as possible. Unfortunately he has taken such a long time to do this preliminary part of the work. He was handicapped because he ~~has~~ ^{has been} groping in the dark without any help and working on his own by trial and error method. Any way in the last two months, he has been able to pick up the technique crystal setting from preliminary photographs and indexing of Weissenberg photographs and use of Weissenberg and normal charts. We have been able to set the "hallow symmetry" class of the crystal which is $3/m$. We have now to settle if the mirror plane perpendicular to the three fold axis, is a real mirror plane or just a result of a symmetry axis with a centre of symmetry which is imposed on a diffraction pattern by the operation of the "Friedel's law", i.e. we have to find out whether the crystal is centro-symmetric or particularly if the projection "hk0" is centro-symmetric. To do this we have to index the (hk0) Weissenberg photograph, measure up the intensities (visual estimation with prepared calibration strips will do) and find out the intensity distribution with the help of "Wilson's statistical method." This will settle the existence or non-existence of the mirror plane. If the plane of symmetry comes out to be real, next step will be to see, if it is a glide plane ^{and also the symmetry axis is a screw axis.} To do this, we shall have to set the crystal on a axis or b axis, and take the Weissenberg photograph and index them. Study of systematic absences of reflection, will settle this question. From the hallow symmetry point, the crystal belongs to $Trigonal$ ^{system} ~~class~~.