

Chilcompton
High Rd
Cambridge

3/ vii /46

Dear Krishnan,

Kate tells me that she forgot to remove the
Sweet coupons from the ration book when she
returned it to you. She would be very grateful
if you could let her have these - if you send the whole
book I will return it to you by post.

I hope I shall hear from you soon ~~about~~ ^{confirming that}
you can talk to Kaphira Club on Tues. July, 16th.
I hope also your trip to Oxford is not too exhausting.

With kind regards,

Yours,

David Rowley

THE ROYAL SOCIETY MOND LABORATORY
UNIVERSITY OF CAMBRIDGE

Tel. 4655

Free School Lane
Cambridge

11th April, 1946.

Dear Krishnan,

I was delighted to hear of you again, and hope very much that your trip to England materializes. It would be very nice if you could stay with us for at least part of your visit; we have a spare room and should be very glad to have you.

As regards Srivastava, I have passed the various papers to Professor P.W. Duff, the Senior Tutor at Trinity and he is taking the matter up. It will, however, be at least a month before any definite decision is reached, as the question has to come up before various committees and so on. Srivastava will be informed in due course, and in the meantime I will keep an eye on developments and let you know as soon as there is any news. Please don't let quite such a long interval elapse before your next letter.

With kindest regards,

Yours sincerely,

David Shoenberg

Professor K.S. Krishnan, F.R.S.,
Physics Department,
The University,
Allahabad,
India.

With kind regards,

Yours

Darwin Swank

Sir K.S. Krishnan, F.R.S.,
The Director,
National Physical Laboratory of India,
New Delhi,
INDIA.

Encl.

P.S. I found later that my figures of μ put into the
formula give a susceptibility ~~only~~ too small only
by a factor of about 3, so the discrepancy was
not be so glaring

DS

UNIVERSITY OF CAMBRIDGE

DEPARTMENT OF PHYSICS

Royal Society Mond Laboratory,
Free School Lane,
Cambridge,
England.

18th August 1949.

Dear Krishnan,

Many thanks for your telegram; I hope you will not mind that I did not after all mention that you had provided the crystal in my "note added in proof". This note had to be made very short and I thought it would be best to make a proper acknowledgement, both of your providing the crystal and of your urging the interest of the problem (as you did before the war) in the full publication, which I hope to write up when I have done measurements in stronger fields. In the meantime, I enclose a graph of the important results, the ordinates are differences of mass susceptibility (owing to a muddle in the calibration they have to be multiplied by 1.2 to be absolute values, but this factor is only reliable to 10%). The angle ψ is between H and the hexagonal axis. I have checked that a second crystal (also from you) gives almost identical curves, but a third one (from the museum here) gave appreciably smaller amplitudes, though identical phases. The position of the binary axis does not seem relevant (though I have not checked this very thoroughly yet). I have made a very rough analysis in terms of Landau's theory (this analysis can only have an order of magnitude significance in view of the fact that Landau's theory does not account for certain details) and find effective masses (ratios to electronic mass) given by

$$\sqrt{x_1 x_2} \sim 0.07$$

$$x_3 \sim 2000$$

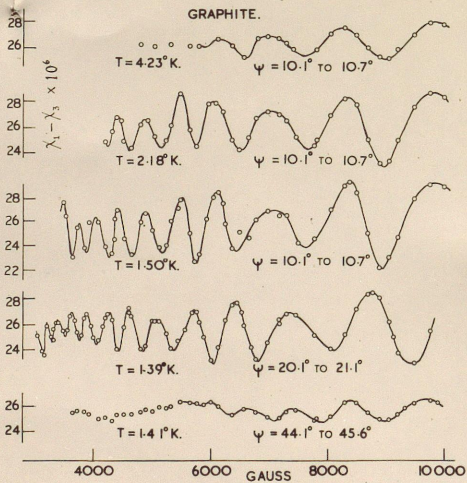
also T_0 (degeneracy temperature) $\sim 100^\circ\text{K} - 150^\circ\text{K}$

This seems to correspond to about 3×10^{-4} electrons per atom. All these figures are very rough and I have not had time even to check the arithmetic. (I am dashing off to U.S. tomorrow to look at their low temperatures, and am having a great rush). These figures do not agree very well with the ones you find in your paper with Ganguli from the ordinary susceptibility - this suggests that, as in bismuth, it is only a small group of electrons which causes the wobbles (or perhaps that my interpretation of theory is quite wrong).

I should be grateful if you could send me a reprint of your paper with Ganguli (in the P.R.S.) by air mail to:

c/o Professor J.C.Slater, M.I.T., Dept. of Physics,
Cambridge 39, Mass., U.S.A.

P.T.O.



Reply

THE ROYAL SOCIETY MOND LABORATORY
UNIVERSITY OF CAMBRIDGE

Tel. 4655

Free School Lane
Cambridge

18th June, 1946.

Dear Krishnan,

I am delighted to hear we shall be seeing you soon. It would be very nice if you could come to lunch with us on Sunday and spend the afternoon. As regards Saturday, perhaps you could come and have tea with us as soon as you have deposited your luggage; we could then discuss your future programme. If you come out by bus, you should take the 106 bus (marked Red Cross) from Christs College (every 12 minutes) and get off at Long Road. Our house is just opposite the bus stop, the first gate in Long Road. The full address is Chilcompton, Long Road, (telephone 87995), and if you should come by taxi instead of bus you should mention that it is the Hills Road end of Long Road.

Looking forward to your visit.

Yours sincerely,

David Sturges

Prof. Sir K.S. Krishnan, D.Sc., F.R.S.,
Mount Royal Hotel,
Marble Arch,
London, W.1.

THE ROYAL SOCIETY MOND LABORATORY
UNIVERSITY OF CAMBRIDGE

Tel. 4655

Free School Lane
Cambridge

3/11/46

Dear Buckman,

I found your letters & card just after
I sent off my letter this morning. I am delighted
to hear you can manage Tues. July 16, and
the meeting is at 8.30 P.M. Perhaps you will
dine with me at Carris that evening and
we can go on from there. ~~But~~ Some straight 6
the bars when you arrive if this is convenient.
It is very kind of you to offer to look for
a film, though I doubt whether you
will succeed. Anyhow the size is 127
($1\frac{5}{8}$ " x $2\frac{1}{2}$ ") any make or speed will do
but Kodak Veribronze is the one I try to get.

Yours,

David Thwaites