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MADINGLEY RISE

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CAMBRIDGE

159

5th January 1959

Dear Ronald,

Thank you for your letter. I have made a copy of your sheet which I return, with two copies in case you have any use for them.

I do not think there will be any difficulty in doing <sup>a</sup> 119 term Fourier analyses on EDSAC and then synthesizing the function again leaving out the higher harmonics, though I doubt if it is worth the trouble, since, as you say, it would give a result very similar to that you already have.

I am a bit doubtful about the desirability of this method of smoothing since a sharp cut-off in the spectrum produces oscillations in the function with the cut-off frequency and I think that one should spread out the cut-off in the spectrum sufficiently to avoid these.

Yours sincerely,

Teddy

E. C. BULLARD.

Sir Ronald A. Fisher, Sc.D., F.R.S.,  
Whittingehame Lodge,  
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*In fact your coefficients ~~are~~ stand directly the effect of smoothing a S function & one can see that the ratio of max<sub>m</sub> to 1st min<sub>m</sub> for this is  $\frac{17}{3} \frac{f}{f} = 5.7$  for a 5 ft formula +  $\frac{883}{260} = 3.4$  for the 17 ft one, so it doesn't get worse very rapidly.*