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January 22, 1960

Dr. Edward L. Ginzton  
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Stanford, California

Dear Ed:

Thanks for your letter of the 19th, and for Dr. Herold's comments. I am sure these are well taken, and if you and he can see no virtues in a spaced plasma, I certainly would not pursue the matter at the present time. Certainly the power supply is the most formidable problem for any type of propulsion by accelerated particles, but I had the impression that the neutralization of the exhaust was not a negligible one. I was (and am) aware that the availability of negative ions was also a problem, but thought it conceivable that this was partly due to their neglect in most particle work, and that new approaches could be found if there were an indicated need for them.

Some of the sources I indicated should not appear too realistic -- from what I have been able to find, possibly only  $I^-$  and  $SF_5^-$  have an adequate precedent in existing work.

As my secretary indicated, I will be happy to join you for lunch; I'm already tied up for next Wednesday, but Febr. 8 will be fine. I don't want to beat a dead horse, if it has expired, but I am interested in the implication that 'syndio-ionic' beams have in fact not been studied experimentally.

A propos another point in discussion, I've noted that Consolidated Systems Corp. has been awarded a \$98,000 contract from NASA for work on a miniaturized mass spectrometer, for high-altitude atmospheric analysis.

Yours cordially,

  
Joshua Lederberg