At present there is, however, some concern with 3C 147 about possible effects of atmospheric scintillations in stray light from the bright star α Aur, although this lies 2·5° outside the geometrical field of view of the equipment. Possible effects of changes in sensitivity of the equipment with changes in its orientation in the Earth's magnetic field are also being considered, though preliminary tests indicate these effects are negligible. The work will be continued this coming winter.

We appreciate that the estimated fluxes at the sources, for the three quasi-stellar objects, column g, are about one order of magnitude higher than the optical and radio fluxes from these sources (4), and that it would be unlikely for the bulk of the emission to appear in the form of such high-energies.

It has recently been pointed out (5) that photon-photon pair production may be a significant absorption mechanism, by which high-energy γ-rays from remote extra-galactic objects may be lost by collisions with intergalactic optical photons. G. R. Burbidge (private discussion) has however pointed out to me that the intergalactic photon flux assumed by Nikishov is too high, at 0·1 eV cm^{-3}, probably by two orders of magnitude.

Nevertheless I would like to suggest tentatively that such γ-rays, if not absorbed in intergalactic space, may be absorbed near their source of origin, where high optical photon (or possibly X-ray) fluxes may exist, at levels high enough to compensate for the much smaller interaction lengths.

The apparent absence of γ-rays from the Crab Nebula is consistent with earlier observations by Chudakov (6) using the same technique.

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9. CONCLUSION

G. C. McVittie

DISCUSSION

R. Minkowski. I would like to emphasize that it would be very difficult, because of the large difference in luminosities (about 5 magnitudes) to detect the galaxy around a quasi-stellar radio source.