



A "Blinking" Satellite

This unusual satellite trail was recorded on an ESO Schmidt plate for the extension of the Quick Blue Survey towards the equator. It was obtained on August 31, 1988 and covers field 815 of the ESO/SERC grid (R.A. = $21^{\text{h}}20^{\text{m}}$;

Decl. = -5°). Whereas the brightness of most other photographically recorded satellite trails is rather uniform or slowly varying, the rapidly changing light along this trail indicates a very fast rotation. Also, the "blinks" are different, and do not repeat in a uniform sequence, showing that the rotation axis changes.

Indeed, if the satellite is at an altitude that corresponds to one revolution around the Earth each 100 minutes, then it rotates about 9 times per second (but it may of course be in a higher, slower orbit). What kind of instruments are on-board? Or is it just another piece of tumbling space junk?

Report on IAU Colloquium 112¹, on Light Pollution, Radio Interference and Space Debris

(Washington, 13 to 16 August 1988)

Light Pollution

Astronomers are the only minority concerned by this problem and thus have to lead the fight without expecting any help, apart from the lighting industry which recently discovered that computer aided design could help improving the efficiency of lighting equipments!

Kitt Peak observatory reported encouraging news from the results of light pollution control in Tucson. Mount Palomar Observatory, where the sky is 0.75 magnitude brighter than it would be without light pollution, is now trying to follow the same path. Apart from getting a legislative support, it is advised to acquire comprehension, understanding and help from the population. This is possible through a long term policy aiming at raising interest about the science made in astronomical observatories, for instance by means of guided tours, with

a better long term efficiency when school children are concerned.

The main cures for light pollution are the generalized use of low pressure sodium lamps because their radiation is easier to filter out, and a better shielding of street lighting (60% of the total pollution). Outdoor sport facilities remain a problem but most are fortunately not lighted during the whole night. Time control of residential area lighting can help darkening part of the nighttime.

An argument to convince city mayors to take actions is that the young urban generation is raised without having the possibility to enjoy the vision of the night sky (of course, in that case, as for amateur astronomers, the low pressure sodium does not help much). Planetariums are also considered as a way to sensitize the population and should include some striking examples in their shows (polluted versus non-polluted sky).

As shown on Figure 1, La Silla lies in a particularly favourable area now, and so did Mount Palomar observatory when the site was chosen . . .

Radio Interference

Radio astronomers represent a small percentage of radio wave users, all of them being concerned with maintaining some good order in the radio community. With the expansion of satellite radio communications, there is a growing need for frequencies. The distribution of the radio spectrum is made on a worldwide basis during a so-called "World Administrative Radio Conference" (WARC).

The U.S. radio astronomers have several channels in their administration to get a voice at WARCs, the situation is somewhat more difficult in Europe where each country has its own regulations. The newly created European "Committee on Radio Astronomical Frequencies" (CRAF) tries to be present during negotiations. Radio astronomers are advised that it will be practically impossible to get new frequencies in the future and that they have to keep on justifying the usefulness of the already attributed ones.

Among the most affected users by

¹ This colloquium was organized by D.L. Crawford (Kitt Peak National Observatory) and T. Gergely (National Science Foundation, Div. Ast. Sci.)