Alaska Science Forum

Pulsating aurora

By NEIL DAVIS

It is no surprise that comparatively few people have ever seen pulsating aurora, even though it is one of the more common, if not the most common, type of northern lights. One reason is that the pulsating aurora normally occurs late in the night, usually from about midnight to dawn, when most everyone is, or should be, tucked into bed. Another reason is that pulsating aurora is relatively weak. Even during a strong display of pulsating aurora, a person looking up at the sky immediately after leaving a lighted room will usually fail to see this weak aurora.

Pulsating aurora does not swish across the sky like the bright, active auroras typically seen earlier in the night. It just blinks on and off, for reasons that auroral scientists do not yet understand.

Both pulsating arcs and patches are seen; the most obvious to the human observer are large pulsating patches, usually bigger than the Big Dipper from handle to cup. These patches blink on and off every few seconds, the most common periodicity is 6 to 10 seconds. Many pulsating auroral patches may be seen in the sky at one time. Each seems to have its own temporal behavior pattern, quite independent of its neighbors.

Excellent displays of pulsating aurora can be seen on many winter nights throughout central Alaska and northern British Columbia. During particularly active nights, equally beautiful displays of pulsating aurora can be seen at least as far south as Seattle.

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