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A Science Service Feature

? WHY THE WEATHER ?

Dr. Charles F. Brooks
of Clark University,
discusses:

RIBBON AND DARK LIGHTNING

If you look closely at the photograph of a heavy lightning discharge, sometimes it appears as a fairly wide streak made up of four or five parallel bands. This ribbon structure is due to four or five successive discharges occurring over the same path through the air. But they do not fall exactly in the same line, as in the fraction of a second between discharges the wind may have shifted the path sideways several inches or more than a foot. Photographs of such lightning taken with a rapidly rotating camera will show several distinct, well separated, parallel flashes. To the observer such lightning appears to flicker.

The so called "dark" lightning is a purely photographic phenomenon, known as the Clayden effect, somewhat analogous to over-exposure, but of an entirely different origin. Curiously, over-exposure turns a "negative" into a "positive", like the Clayden effect, making the print, in turn, negative. On the print, then, the lightning appears as a dark streak.

(Tomorrow: Ball Lightning.)

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