

**A +CG flash caused by a sequence of bidirectional leaders that served to form
a ground-reaching branch of a pre-existing horizontal channel**

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Movies S1 to S3

Introduction

We present here the LCI video and high-speed video records of the +CG flash.

18 **Movie S1.** The video from -0.5 to 1.5 s captured by LCI (50-fps) showing the +CG flash
19 in its entirety. The consecutive frames shown in Figure 1 were obtained from this video.

20 **Movie S2.** The video from -25 to 25 ms captured by HC-1 (20,000-fps) showing four
21 bidirectional leaders. Both the composite image of upward flash shown in Figure 2a and
22 the individual-frame images shown in Figures 3 and 4 were obtained from this video.

23 **Movie S3.** The video from -10 to 10 ms captured by HC-2 (50,000-fps) showing the
24 third and fourth bidirectional leaders, as well as the flickering side branches. The
25 individual-frame images shown in Figure 5 and the composite image of side branches
26 shown in Figure 7 were obtained from this video.