ERS-1 BISTATIC RADAR IMAGES

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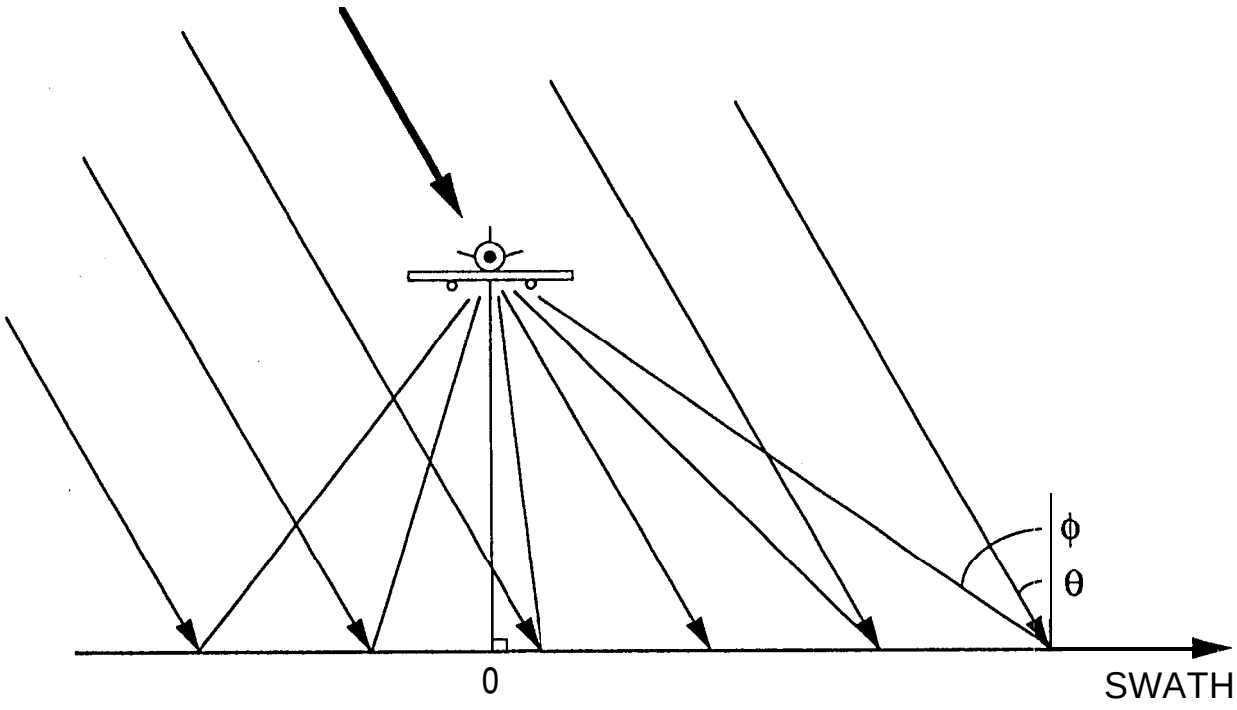
Bistatic, synthetic aperture radar images have been created using the ERS-1 satellite as the illuminator, and a NASA aircraft outfitted as the receiver.

Data collection occurred in a brief burst of signals, lasting only 3 seconds, as the spacecraft overflew the aircraft. There was neither time available to set levels nor to lock up phase loops.

Although the observation time was too short for human reaction, it was too long for the two frequency standards to remain coherent. For this experiment, the directly received chirps from the satellite were recorded along with the subsequent echoes, and used as coherent references for the processor. Because of the rapidly changing, bistatic geometry, a non-standard form of range-Doppler processing was devised.

Data were collected over Oklahoma City on June 10, 1992. The resulting bistatic image will be compared to the monostatic one of the same area.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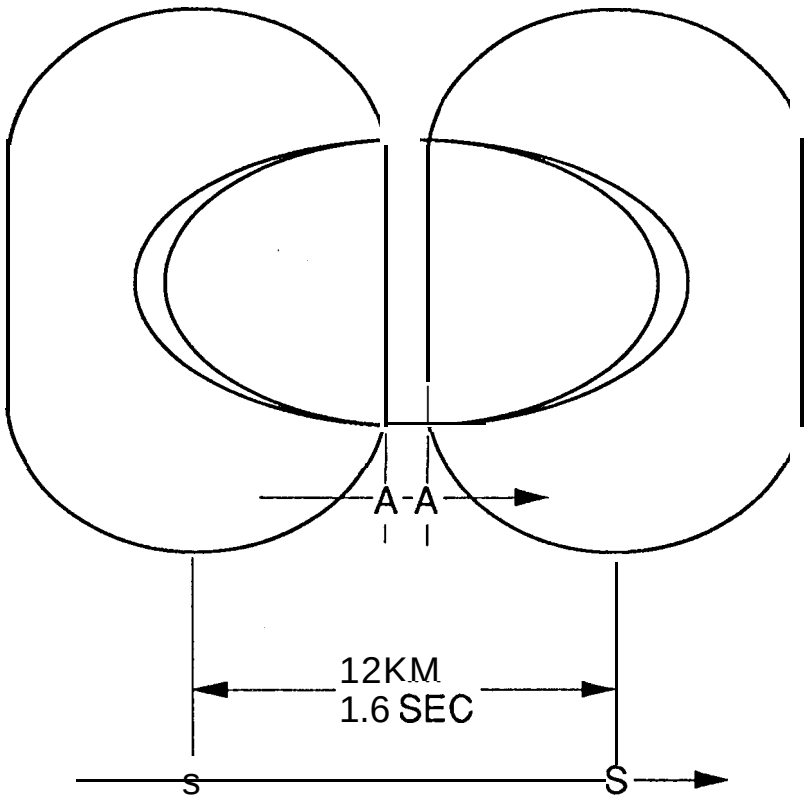
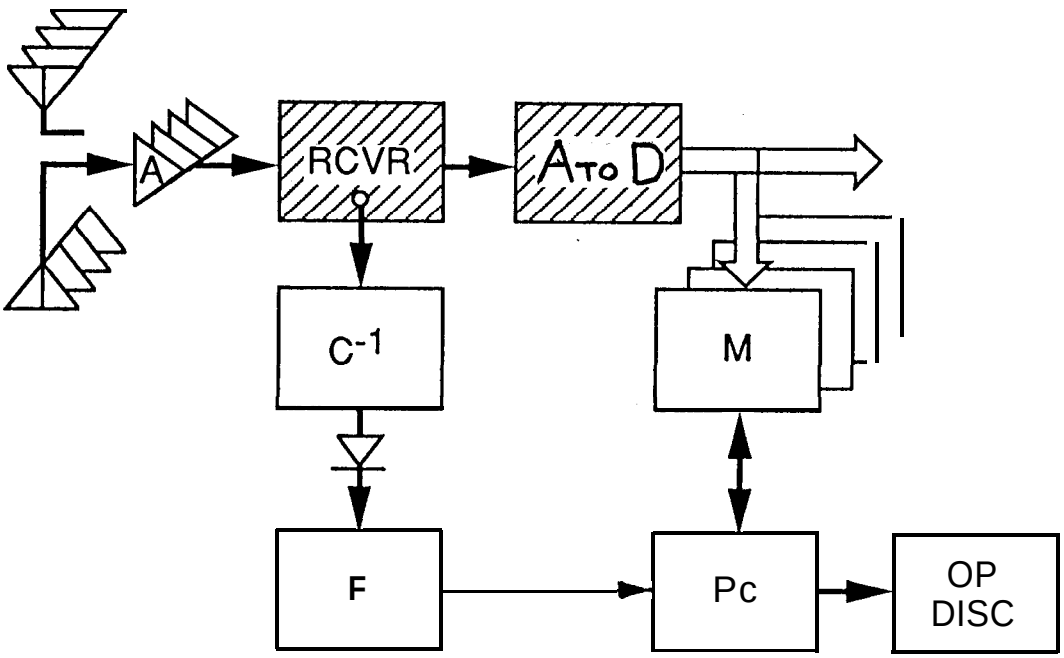


L-BAND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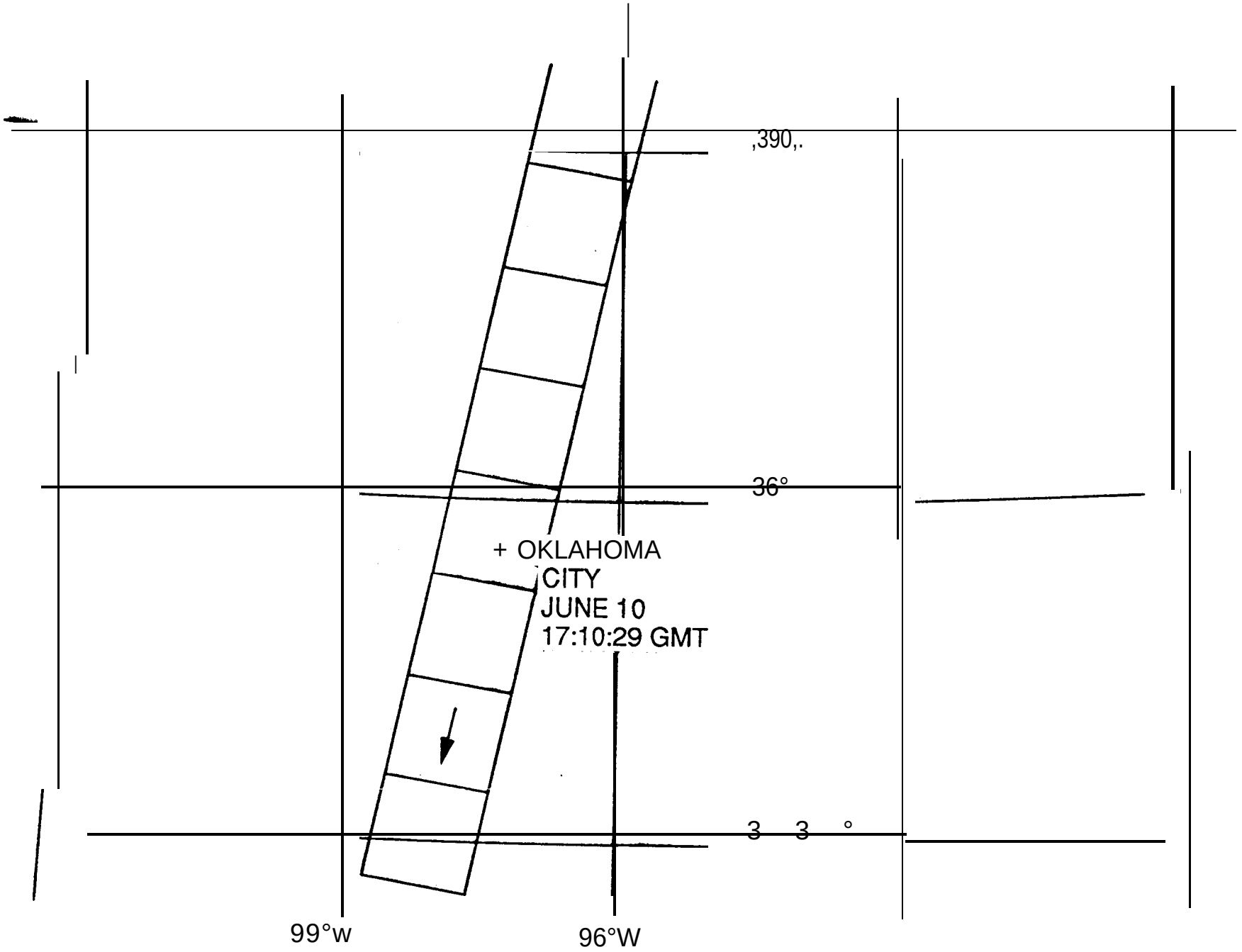
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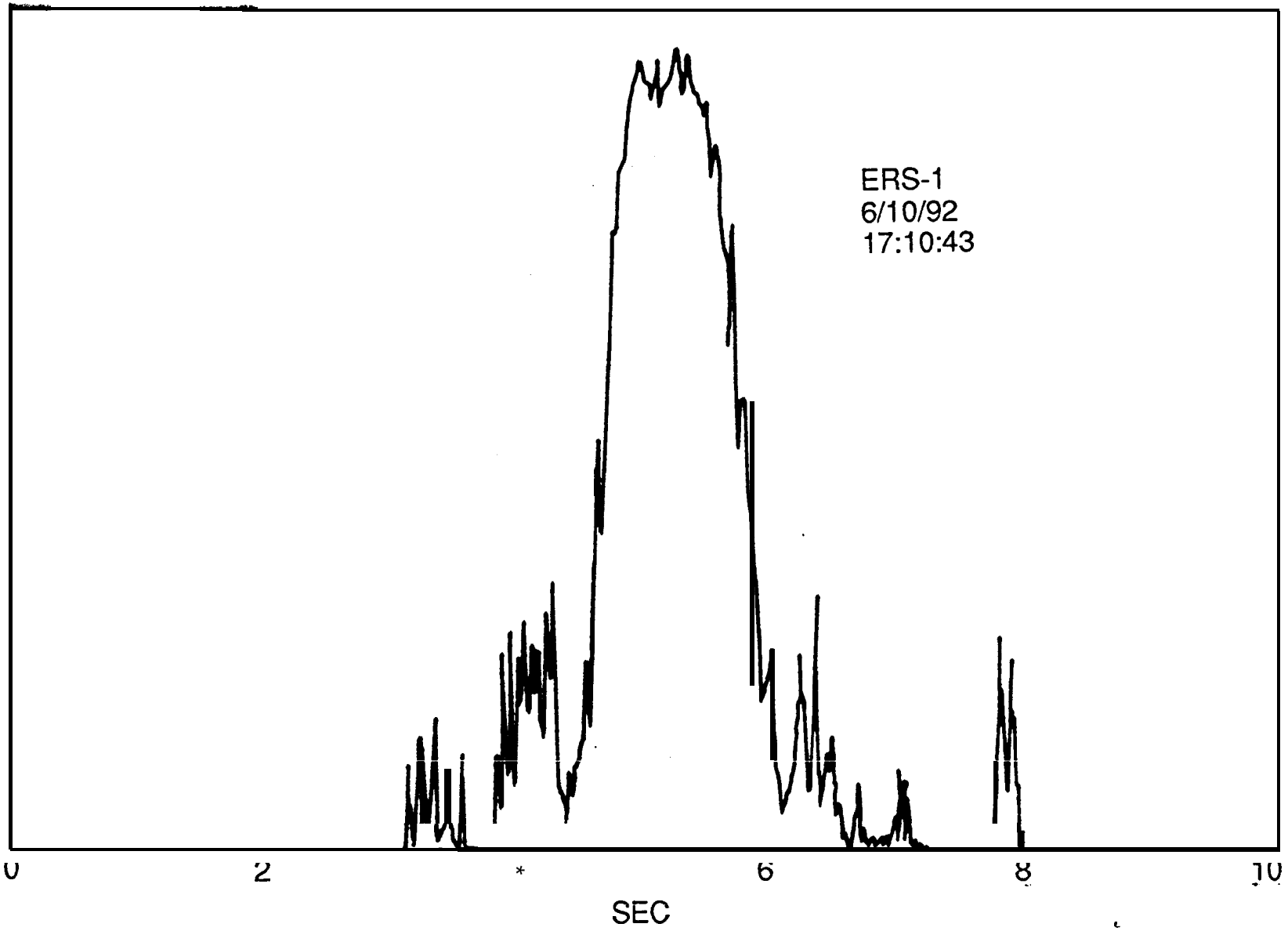
ERS-1
6/10/92
17:10:43
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