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**Abstract :** In conjunction with the DNA barium releases, Avefria I and II, an experiment was undertaken to determine if radio communication was possible off the base of a striated plasma created by these barium releases. A transmitting station was set up to broadcast a steady signal at two HF frequencies toward the base of the barium striations and two receiving stations listened for signal returns on the two frequencies. (The chosen geometry prevented reflections off the sides of the barium cloud from affecting the experiment). One station heard substantial returns while the other heard nothing. Data from the first station provide an estimate of the reflection cross sections for the base of the striated barium cloud. The negative result from the second station arises partly from limited sensitivity of equipment but the upper limit on cross section was less than that seen from the first station. This suggests a directional character for the signal reflected from the base of the cloud.

**Descriptors :** \*RADIO TRANSMISSION, \*STRIATIONS, NUCLEAR EXPLOSIONS, HIGH FREQUENCY, PLASMAS(PHYSICS), REFLECTION, NUCLEAR EXPLOSION SIMULATION, CROSS SECTIONS, HIGH ALTITUDE, NUCLEAR CLOUDS, COMMUNICATION AND RADIO SYSTEMS, RADIO SIGNALS, BARIUM, BOTTOM, RADIO RECEPTION.

**Subject Categories :** RADIO COMMUNICATIONS

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