

J98(A83)

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Proposal Abstract J98(A83)

1. **Arms Control Problem:**
Nuclear weapons - comprehensive test ban
2. **Verification Type:**
Remote sensors - radar
3. **Source:**
Warshaw, Stephen and Paul Dubois. "Ionospheric Detection of Explosions". Energy and Technology Review Lawrence Livermore National Laboratory (May 1983): 38-49.
4. **Summary:**

This technical article describes the work of Lawrence Livermore National Laboratory in developing computer simulation codes and theoretical models to account for atmospheric and ionospheric phenomena relevant to ionospheric detection of underground nuclear explosions. The detection method involves the use of high frequency radar to detect electronic perturbation in the ionosphere caused by an explosion. Tests have measured the acoustic pulse and ionospheric disturbance of underground nuclear explosions as well as for a ground-based chemical explosion. The results have produced "some very encouraging calculations" (p.39) which suggest that the method deserves serious consideration as a means for remotely sensing the effects of an explosion.