

[Sign on](#)

[SAO/NASA ADS Physics Abstract Service](#)

- [Find Similar Abstracts](#) (with [default settings below](#))
- [Also-Read Articles](#) ([Reads History](#))
- [Translate This Page](#)

Title: Artificial Ionospheric Mirrors (AIM). A: Concept and issues
Authors: [Kossey, Paul A.](#); [Heckscher, John L.](#); [Shanny, Ramy A.](#); [Field, Edward C., Jr.](#)
Affiliation: AA(Pacific-Sierra Research Corp., Los Angeles, CA.), AB(Pacific-Sierra Research Corp., Los Angeles, CA.), AC(Pacific-Sierra Research Corp., Los Angeles, CA.), AD(Pacific-Sierra Research Corp., Los Angeles, CA.)
Publication: In AGARD, Ionospheric Modification and its Potential to Enhance or Degrade the Performance of Military Systems 11 p (SEE N91-18506 10-46)
Publication Date: 10/1990
Category: Geophysics
Origin: [STI](#)
NASA/STI Keywords: ATMOSPHERIC IONIZATION, EARTH IONOSPHERE, IONOSPHERIC HEATING, IONOSPHERIC PROPAGATION, RADIO FREQUENCY HEATING, RADIO SCATTERING, MILITARY TECHNOLOGY, RADIO FREQUENCIES, RADIO WAVES
Bibliographic Code: [1990imip.agarS...K](#)

Abstract

Theoretical and experimental research on the creation, maintenance, and control of artificial layers of ionization in the 50 to 90 km altitude range. The focus of the research is to assess the potential for exploiting such so-called 'artificial ionospheric mirrors' (AIM) as scatterers of radio waves to distances well beyond line-of-sight. The AIM concept is discussed in terms of a specific technical approach, the use of ground-based, very high power, RF waves to breakdown the atmosphere. The concept is described in terms of RF requirements to produce breakdown, electron production and losses, resultant ionization densities, and their lifetimes. In addition, issues concerning the RF reflection properties of artificial patches of ionization in the atmosphere are considered, and the potential of exploiting the AIM concept for practical applications is introduced.

[Bibtex entry for this abstract](#) [Preferred format for this abstract](#) (see [Preferences](#))

Add this article to private library

Remove this article from private library

Find Similar Abstracts:

Use: Authors
 Title
 Keywords (in text query field)
 Abstract Text

Return: Query Results Return items starting with number
 Query Form

Database: Astronomy
 Physics
 arXiv e-prints