LITERATURVERZEICHNIS

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Summary

For a continuum containing point defects one can deduce an integro-differential equation describing the conduction of heat which implies the usual parabolic differential equation as a special case and which permits the expansion of a perturbation with a finite velocity. The structure of integro-differential equation and solutions is studied for simple examples.

(Eingegangen: 29. Mai 1963.)

A Realistic Appraisal of Weather Control[1])

By HELMUT K. WEICKMANN, Fort Monmouth, N.J., U.S.A.[2])

While this article was in print, results of accurate measurements of the particle size resulting from FS seeding were obtained. The seeding was done in clear air from two wing tanks, each containing 55 gallons. After the reaction and hydration of the acids were complete, about 1744 kg of stable particles were formed. Penetrations of the large haze cloud were made 15 to 20 minutes after seeding, and the size distribution was measured using a Goetz aerosol spectrometer. The evaluation of the measurements indicates a homogeneous spectrum with a sharp maximum at a particle radius of 0·1875 microns (courtesy of Prof. A. GOETZ, California Institute of Technology, Pasadena, California). With an average density of 1·3 of the end product (40% H_2SO_4), the total particle number which was generated by 110 gallons of FS agent becomes 486×10^{17}, or one gram of FS agent generates $6{\cdot}62 \times 10^{13}$ particles. Since one cubic kilometer has 10^{15} cubic centimeters, 110 gallons of FS agent suffice to generate 486 particles per cc in a volume of 100 cubic kilometers.

With these numbers, the seeding rates of Table III also change. The new Table III is given below:

Table III

Rate of seeding in gallons per minute with FS agent to increase concentration of condensation nuclei to 250 per cc per km³

$\mathring{\nabla}$	$\lceil\!\langle^1$	$\lceil\!\langle^2$	Hailstorms, tornadoes
0·5	0·5–2·5	2·5–25	25–250

[1]) Addendum to 'A Realistic Appraisal of Weather Control', ZAMP *14*, 528–543 (1963).
[2]) U. S. Army Electronics Research and Development Laboratory.