

Cryocoolers 3

CONTENTS

	Page
1. INTRODUCTION AND SUMMARY	1
2. "DESIGN OF CRYOCOOLERS FOR MICROWATT SUPERCONDUCTING DEVICES," by J. E. Zimmerman.	2
3. "RECENT CRYOCOOLER PROGRESS IN JAPAN," by Yoichi Matsubara	10
4. "MAGNETIC REFRIGERATION FOR LOW-TEMPERATURE APPLICATIONS," by John A. Barclay.	20
5. "RECIPROCATING MAGNETIC REFRIGERATOR," by Dean L. Johnson.	33
6. "IMPROVED HEAT SWITCH FOR GAS SORPTION COMPRESSOR," by Chung K. Chan.	42
7. "HYDRIDE ABSORPTION REFRIGERATOR SYSTEM FOR TEN KELVIN AND BELOW," by Jack A. Jones.	53
8. "CLASSIFICATION OF CRYOCOOLERS," by G. Walker.	65
9. "AN EXPERIMENTAL STUDY FOR A MINIATURE STIRLING REFRIGERATOR," by Shimo Li, Chen Guobang, Cuangji Cui, and Jiazhang Li	71
10. "PARAMETRIC TESTING OF A LINEARLY DRIVEN STIRLING CRYOGENIC REFRIGERATOR," by F. R. Stolfi and A. Daniels.	80
11. "DESIGN OF A FLIGHT QUALIFIED LONG-LIFE CRYOCOOLER," by L. Knox, P. Patt, and R. Maresca	99
12. "SIMPLE CONSTRUCTION AND PERFORMANCE OF A CONICAL PLASTIC CRYOCOOLER," by N. Lambert	119
13. "EFFECT OF LEAKAGE THROUGH CLEARANCE SEALS ON THE PERFORMANCE OF A 10 K STIRLING-CYCLE REFRIGERATOR," by C. S. Keung and E. Lindale	127
14. "AN EXPERIMENTAL RECIPROCATING EXPANDER FOR CRYOCOOLER APPLICATION," by Moses Minta and Joseph L. Smith, Jr.	135
15. "EXPERIMENTS WITH A FULLY INSTRUMENTED SPLIT STIRLING CRYOCOOLER," by Alain Faure, Serge Reale, and Philippe Bernhein.	147
16. "LOW FREQUENCY SPLIT CYCLE CRYOCOOLER," by S. X. Bian, Y. D. Zhang, W. W. Wan, L. Wang, and Q. C. Hu.	156
17. "PASSIVE MOTION CONTROL OF PNEUMATICALLY DRIVEN DISPLACERS IN CRYOGENIC COOLERS," by N. Pundak and S. Shtrikman	161
18. "A NONPROPRIETARY, NONSECRET PROGRAM FOR CALCULATING STIRLING CRYOCOOLERS," by William R. Martini	168
19. "A SIMPLE, FIRST STEP TO THE OPTIMIZATION OF REGENERATOR GEOMETRY," by Ray Radebaugh and Beverly Louie.	177

20. "A COMPUTATIONAL MODEL FOR A REGENERATOR," by John Gary, David E. Daney, and Ray Radebaugh	199
21. "CRITERIA FOR SCALING HEAT EXCHANGERS TO MINIATURE SIZE," by Philipp B. Rudolf von Rohr and Joseph L. Smith, Jr.	212
22. "A CLOSED CYCLE CASCADE JOULE THOMSON REFRIGERATOR FOR COOLING JOSEPHSON JUNCTION DEVICES," by Emanuel Tward and Raymond Sarwinski.	220
23. "A SMALL HELIUM LIQUIFIER WHICH PROVIDES CONTINUOUS COOLING BASED ON CYCLED ISENTROPIC EXPANSION," by Calvin Winter, Suso Gyax, Ken Myrtle, and Russel Barton	226
24. "VUILLEUMIER CYCLE CRYOCOOLER OPERATING BELOW 8 K," by Yoichi Matsubara and Mitsuhiro Kaneko.	234
25. "4 K REFRIGERATORS WITH A NEW COMPACT HEAT EXCHANGER," by R. C. Longworth and W. A. Steyert	240
26. "THE DESIGN OF A SMALL LINEAR-RESONANT, SPLIT STIRLING CRYOGENIC REFRIGERATOR COMPRESSOR," by R. A. Ackerman	250
27. "JOULE-THOMSON VALVES FOR LONG TERM SERVICE IN SPACE CRYOCOOLERS," by James M. Lester and Becky Benedict	257
ATTENDANCE LIST.	267