BIBLIOGRAPHY OF REPORTS RELATING TO PROJECT
SHERWOOD (CONTROLLED THERMONUCLEAR REACTIONS)
WRITTEN AT UNIVERSITY OF CALIFORNIA RADIATION
LABORATORY, LIVERMORE AND BERKELEY
- 1953 THROUGH 1957 -

UNCLASSIFIED SECTION

Compiled by Frederick E. Frost

May 1, 1958

LEGAL NOTICE

This report was prepared as an account of Government sponsored work. Neither the United States, nor the Commission, nor any person acting on behalf of the Commission:

A. Makes any warranty or representation, expressed or implied, with respect to the accuracy, completeness, or usefulness of the information contained in this report, or that the use of any information, apparatus, method, or process disclosed in this report may not infringe privately owned rights; or

B. Assumes any liabilities with respect to the use of, or for damages resulting from the use of any information, apparatus, method, or process disclosed in this report.

As used in the above, "person acting on behalf of the Commission" includes any employee or contractor of the Commission, or employee of such contractor, to the extent that such employee or contractor of the Commission, or employee of such contractor prepares, disseminates, or provides access to, any information pursuant to his employment or contract with the Commission, or his employment with such contractor.

Printed for the U.S. Atomic Energy Commission

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

BIBLIOGRAPHY OF REPORTS RELATING TO PROJECT
SHERWOOD (CONTROLLED THERMONUCLEAR REACTIONS)
WRITTEN AT UNIVERSITY OF CALIFORNIA RADIATION
LABORATORY, LIVERMORE AND BERKELEY
- 1953 THROUGH 1957 -
UNCLASSIFIED SECTION

This bibliography is a compilation of titles to unclassified reports, journal articles and conference papers written by members of the University of California Radiation Laboratory, Livermore and Berkeley, relating to Project Sherwood (Controlled Thermonuclear Reactions) from 1953 through 1957. For the classified section see: UCRL-5224.

All reports or papers listed have been given external distribution or were prepared for a journal or a paper presented at one of the Thermonuclear Conferences. Many of the conference papers and journal articles were also issued as UCRL reports, with limited distribution. The UCRL report number is given for all such conference papers and journal articles.

The initial section of this compilation includes the unclassified portions of the Project Sherwood Conferences and the unclassified Project Sherwood bibliographies. Individual conference papers given by members of UCRL are listed separately under the report number assigned to the particular conference followed by the pagination (in parenthesis) as given in the report for that conference.

An entry number is used for convenience in using the personal author index. The entry number is typed to the left and above the report number. In the author index, at the end of this bibliography, the entry number is given followed by the report number in parenthesis.

TID-3506 (1st Rev.) Unclassified
Technical Information Service Extension, AEC.
UNCLASSIFIED U.S. ATOMIC ENERGY COMMISSION REPORTS ON
CONTROLLED THERMONUCLEAR PROCESSES. Sidney F. Lanier,
Comp. Sept. 1957. 6 p.

TID-7536 (Pt. 1) Unclassified
Division of Research, Controlled Thermonuclear Branch, AEC.
CONTROLLED THERMONUCLEAR REACTIONS. A CONFERENCE
HELD AT BERKELEY, CALIFORNIA, FEBRUARY 20-23, 1957.
Sept. 1957. 41 p.

53F1 UCRL-4169 Unclassified
SPUTTERING OF STAINLESS STEEL BY PROTONS IN THE 30-80
KEV RANGE, F. Fairbrother, Jr. and J. S. Foster, Jr. Aug. 7, 1953.

53F2 UCRL-2312 Unclassified
SOME MEASUREMENTS ON A HIGH-VACUUM HIGH-SPEED ION PUMP.
(Thesis). John Stuart Foster, Jr. Aug. 17, 1953.

53G1 UCRL-4146 Unclassified
A PROPOSED PARTICLE CONTAINMENT DEVICE. M. L. Good. July
8, 1953.

53J1 UCRL-4203 Unclassified
LUNAR HEIGHT CHANGES IN THE E-LAYER. M. H. Johnson. Oct.
14, 1953.

54H1 UCRL-4433 Unclassified
CHARGED PARTICLE PRESSURE IN ELECTROMAGNETIC FIELDS.
Louis Henrich. Dec. 29, 1954.

55B1 UCRL-4461 Unclassified
EFFECT OF A DECELERATING GRID ON CURRENT FROM AN ION
SOURCE. G. Bing, C. S. Gardner and T. G. Northrop. Feb. 23, 1955.

55B2 Bostick, W. H. Unclassified
ON THE ORIGIN OF THE MAGNETIC FIELDS AND ANGULAR ROTATIONS
OF STARS AND PLANETS. Phys. Rev. 100, 1007-1008 (1955) (Also avail-
able in UCRL-4502.)

55B3

UCRL-4503

Unclassified

ON THE MECHANISM OF GENERATION OF MAGNETO-HYDRODYNAMIC WHICH RINGS IN THE INTERIOR OF THE SUN AND THEIR RELATION TO SUNSPOTS, TACULAE, PROMINENCES AND FLORES. W.H. Bostick. May 5, 1955.

55B4

UCRL-4518

Unclassified

A MODEL OF THE ELEMENTARY PARTICLES IN WHICH THE INSTABILITY GENERATED BY ELECTROSTATIC FORCES IS BALANCED BY SELF-MAGNETIC AND SELF-GRAVITATIONAL FORCES. W. Bostick. June 9, 1955.

55B5

UCRL-4530

Unclassified

THE ANATOMY OF PLASMONS. W. H. Bostick. Nov. 15, 1955.

55C1

UCRL-4560

Unclassified

LIQUID SODIUM INSTABILITY EXPERIMENT. PT.1. Stirling Colgate. Aug. 130, 1955.

55C2

UCRL-3103

Unclassified

AN OCCLUDED GAS ION SOURCE. Richard B. Crawford, James D. Gow, Wing G. Pon and Lawrence Ruby. Aug. 1955.

55G1

UCRL-4563

Unclassified

PARTICLE TRAJECTORIES IN HOMOGENEOUS MAGNETIC FIELD WITH LINEAR TIME DEPENDENCE. C. S. Gardner. Sept. 12, 1955.

55G2

TID-7503 (p.121-126)

Unclassified

PARTICLE TRAJECTORIES IN MAGNETIC FIELD WITH LINEAR TIME DEPENDENCE. C. S. Gardner. Nov. 15, 1955. (Also available in: UCRL-4592.)

55G3

UCRL-4549

Unclassified

NOTE ON POSSIBLE STABILIZATION DUE TO COUPLING. Howard Greyber. Aug. 4, 1955.

55H1

UCRL-4510

Unclassified

REPORT ON EASTERN TRIP. Elsa L. Huber. May 17, 1955.

55H2

UCRL-4612

Unclassified

PARTICLE DYNAMICS TREATED BY CLASSICAL PERTURBATION THEORY. L. Henrich. Nov. 24, 1955.

UCRL-4618 Unclassified
MOTION OF PERFECT CONDUCTORS IN A MAGNETIC FIELD. W. A.
Newcomb. Dec. 1, 1955.

UCRL-4496 Unclassified
PROGRESS REPORT ON LOADING OF TITANIUM WITH DEUTERIUM.
James Ruff. May 4, 1955.

UCRL-4439 (Rev.) Unclassified
AN "EXACT" ANALYSIS OF A CYLINDRICAL PLASMA IN A MAGNETIC
FIELD. Lewi Tonks. Jan. 12, 1955.

UCRL-4466 (PT. I) Unclassified
PART I - AN EXACT ANALYSIS OF A LIMITED PLANE PLASMA IN A
MAGNETIC FIELD. Lewi Tonks. March 9, 1955.

UCRL-4466 (PT.IV) Unclassified
TRAJECTORY-WISE ANALYSIS OF IMMOBILIZED PLASMA INCLUDING
ELECTRONS-MACHINE CALCULATIONS. Lewi Tonks and Ralph Keirstead.
April 6, 1955.

UCRL-4462 Unclassified
CONDITIONS FOR PROPAGATION OF PURE ELECTRIC AND MAGNETIC
WAVE.- TYPES IN A CYLINDRICAL SYSTEM CONTAINING DIELECTRIC
OR MAGNETIC BOUNDARIES. John F. Waddell. March 2, 1955.

UCRL-4743 Unclassified
MACROSCOPIC PROPERTIES OF A ONE-DIMENSIONAL PLASMA CONFINED BY A MAGNETIC FIELD. Hugh W. Batten and Cornelius H. Woods.
Sept. 4, 1956.

Bostick, Winston H. Unclassified
SIMULATION OF SOLAR PROMINENCES IN THE LABORATORY, Phys.
Rev. 104 (4) 1191-1193 (Nov. 1956). (Also available as: UCRL-4731)

Bostick, W. H. Unclassified
EXPERIMENTAL STUDY OF IONIZED MATTER PROJECTED ACROSS A
MAGNETIC FIELD. Phys. Rev. 104 (2) 292-299 (Oct. 1956). (Also avail-
able as: UCRL-4695)

UCRL-4722 Unclassified
SIMULATION OF ASTROPHYSICAL PROCESSES IN THE LABORATORY.
Winston H. Bostick and Orin Twite. June 6, 1956.

Bostick, W. H. Unclassified
EXPERIMENTAL STUDY OF PLASMOIDS. Phys. Rev. 106 (3) 404-412
(May 1957) (Also available as: UCRL-4768)

UCRL-4720 Unclassified
HIGH-FIELD LONGITUDINAL MAGNETO-RESISTANCE OF GERMANIUM.
H. P. Furth and R. W. Waniek. June 25, 1956.

Harris, E.G., R. B. Theus and W. H. Bostick Unclassified
EXPERIMENTAL INVESTIGATIONS OF THE MOTION OF PLASMA
PROJECTED FROM A BUTTON SOURCE ACROSS MAGNETIC FIELDS.
Phys. Rev. 105 (1) 46-50 (Jan. 1957) (Also available as: UCRL-4719)

UCRL-4688 Unclassified
A BUTTON SOURCE OF PLASMA. V. G. McIntosh and W. H. Bostick.
April 25, 1956.

Northrop, T. G. Unclassified
HELMHOLTZ INSTABILITY OF A PLASMA. Phys. Rev. 103 (5) 1150-54
(Sept. 1956).

Post, R. F. Unclassified
CONTROLLED FUSION RESEARCH-AN APPLICATION OF THE PHYSICS
OF HIGH TEMPERATURE PLASMAS. IRE, Proc. 45(2) 134-160 (Feb.
1957) and Rev. Mod. Physics 28(3) 338-362 (July 1956) (Also available as:
UCRL-4717)

UCRL-4769 Unclassified
PLASMA CONFINEMENT AT UNIFORM TEMPERATURE . Cornelius H.
Woods. Oct. 26, 1956.

Chandrasekhar, S., Allan N. Kaufman
and Kenneth Watson Unclassified
PROPERTIES OF AN IONIZED GAS AT LOW DENSITY. III. Annals of
Physics 2 (5) 435-70 (Nov. 1957)

Colgate, S. A. and R. L. Aamodt Unclassified
PLASMA REACTOR PROMISES DIRECT ELECTRIC POWER. Nucleonics
15 (8) 50-5 (Aug. 1957).

UCRL-4829 Unclassified
A DESCRIPTION OF A SHOCK WAVE IN FREE PARTICLE HYDRODYNAMICS WITH INTERNAL MAGNETIC FIELDS. S. A. Colgate. Feb. 20, 1957.

57C4

UCRL-4895

Unclassified

INITIAL CONDITIONS FOR THE DYNAMIC PINCH. Stirling A. Colgate.
May 1957. 20 p.

57G1

UCRL-4942

Unclassified

RADIATION DAMPING OF AN ELECTRON IN A UNIFORM MAGNETIC
FIELD. Gordon Gibson and Eugene J. Lauer. July 23, 1957. 11 p.

57K1

TID-7536 (Pt. 1) (p. 23-25)

Unclassified

PLASMA DIFFUSION IN A MAGNETIC FIELD. A. N. Kaufman. (Also
available as: UCRL-4835)

57K2

UCRL-4861

Unclassified

PROPERTIES OF AN IONIZED GAS OF LOW DENSITY IN A MAGNETIC
FIELD. PART III. Allan N. Kaufman and Kenneth M. Watson. March
1957.

57N1

TID-7536 (Pt. 1) (p. 26-31)

Unclassified

THE HYDROMAGNETIC WAVE GUIDE. W. A. Newcomb.

57N2

UCRL-4941

Unclassified

ION OSCILLATIONS IN A MAGNETIC FIELD. William A. Newcomb.
July 30, 1957.

57P1

Post, Richard F.

Unclassified

FUSION POWER. Richard F. Post. Sci. American 197 (6) 73-84
(Dec. 1957).

57R1

Rosenbluth, Marshall N. and

Allan N. Kaufman

Unclassified

PLASMA DIFFUSION IN A MAGNETIC FIELD. Phys. Rev. 109 (1) 1-5
(Jan. 1, 1958). (Also available as: UCRL-4904).

57W1

TID-7536 (Pt. 1) (p. 1-4)

Unclassified

APPLICATION OF THE BOLTZMANN TRANSPORT EQUATION TO
SOME PROBLEMS OF PLASMA STABILITY. K. M. Watson and A. N.
Kaufman.

57W2

UCRL-4836

Unclassified

MICROWAVE DIAGNOSTICS FOR HIGH-TEMPERATURE PLASMAS.
Charles B. Wharton. March 1957.

- INDEX -

Aamodt, R. L.
57C2

Batten, Hugh W.
56B1 (UCRL-4743)

Bing, G.
55B1 (UCRL-4461)

Bostick, W. H.
55B2 (Phys. Rev. 100, 1007-1008 (1955))
55B3 (UCRL-4503)
55B4 (UCRL-4518)
55B5 (UCRL-4530)
56B2 (Phys. Rev. 104 (4) 1191-1193 (Nov. 1956))
56B3 (Phys. Rev. 104 (2) 292-299 (Oct. 1956))
56B4 (UCRL-4722)
56B5 (Phys. Rev. 106 (3) 404-412 (May 1957))
56H1 (Phys. Rev. 105 (1) 46-50 (Jan. 1957))
56M1 (UCRL-4688)

Chandresekhar, S.
57C1

Colgate, Stirling A.
55C1 (UCRL-4560)
57C2
57C3 (UCRL-4829)
57C4 (UCRL-4895)

Crawford, Richard B.
55C2 (UCRL-3103)

Fairbrother, F. Jr.
53F1 (UCRL-4169)

Foster, J. S. Jr.
53F1 (UCRL-4169)
53F2 (UCRL-2312)

Furth, H. P.
56F1 (UCRL-4720)

Gardner, C. S.
55B1 (UCRL-4461)
55G1 (UCRL-4563)
55G2 (TID-7503 (p. 121-126))

Gibson, Gordon
57G1 (UCRL-4942)

Good, M. L.
53G1 (UCRL-4146)

Gow, James D.
55C2 (UCRL-3103)

Greyber, Howard
55G3 (UCRL-4549)

Harris, E. G.
56H1 (Phys. Rev. 105 (1) 46-50 (Jan. 1957))

Henrich, Louis
54H1 (UCRL-4433)
55H2 (UCRL-4612)

Huber, Elsa L.
55H1 (UCRL-4510)

Johnson, M. H.
53J1 (UCRL-4203)

Kaufman, Allan N.
57C1
57K1 (TID-7536 (Pt. 1)(p. 23-25))
57K2 (UCRL-4861)
57R1 (Phys. Rev. 109 (1) 1-5 (Jan. 1, 1958))
57W1 (TID-7536 (Pt. 1)(p. 1-4))

Keirstead, Ralph
55T3 (UCRL-4466 (Pt. IV))

Lauer, Eugene J.
57G1 (UCRL-4942)

McIntosh, V. G.
56M1 (UCRL-4688)

Newcomb, W. A.
55N1 (UCRL-4618)
57N1 (TID-7536 (Pt. 1)(p. 26-31))
57N2 (UCRL-4941)

Northrop, Theodore G.
55B1 (UCRL-4461)
56N1 (Phys. Rev. 104 (5) 1150-54 (Sept. 1956))

Pon, Wing G.
55C2 (UCRL-3103)

Post, Richard F.
56P1 (IRE, Proc. 45 (2) 134-160 (Feb. 1957) and
Rev. Mod. Physics 28 (3) 338-362 (July 1956))
57P1 (Sci. American 197 (6) 73-84 (Dec. 1957))

Rosenbluth, Marshall N.
57R1 (Phys. Rev. 109 (1) 1-5 (Jan. 1, 1958))

Ruby, Lawrence
55C2 (UCRL-3103)

Ruff, James
55R1 (UCRL-4496)

Theus, R. B.
56H1 (Phys. Rev. 105 (1) 46-50 (Jan. 1957))

Tonks, Lewi
55T1 (UCRL-4439 (Rev.))
55T2 (UCRL-4466 (Pt. I))
55T3 (UCRL-4466 (Pt. IV))

Twite, Orin
56B4 (UCRL-4722)

Waddell, John F.
55W1 (UCRL-4462)

Waniek, R. W.
56F1 (UCRL-4720)

Watson, Kenneth M.
57C1
57K2 (UCRL-4861)
57W1 (TID-7536 Pt. 1)(p. 1-4))

Wharton, Charles, B.
57W2 (UCRL-4836)

Woods, Cornelius H.
56B1 (UCRL-4743)
56W1 (UCRL-4769)

/men