

OFFICIAL RECORD COPY**MATERIALS LICENSE**

Amendment No. 13

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		In accordance with letter dated November 21, 1996	
1. University of Florida Radiation Control and Radiological Services		3. License Number	SNM-50
2. 343 Nuclear Science Center Gainesville, Florida 32611		is amended in its entirety to read as follows:	
		4. Expiration Date	April 30, 2004 (Extended)
		5. Docket or Reference No.	070-00049
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License	
A. Plutonium 239	A. Sealed neutron sources (Mound Laboratories and Baird Atomic Model NUMEC)	A. 290 grams total, no single source to exceed 160.04 grams	
B. Uranium 235	B.(1). Uranium hexafluoride solid in two storage containers	B.(1) 157 grams	
	(2). Uranium metal foils	(2) 43 grams	
	(3). Uranium coating inside metal tube	(3) 1 gram	
	(4). Internal source in fission chambers	(4) 2 grams total contained in 6 separate fission chambers	
9. Authorized Use:			
A. For use in educational experiments, training, education-related research and instrument calibration.			
B.(1) - (3). Storage incident to disposal.			
B.(4) For use as an internal source in fission chambers.			

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located on the University of Florida campus, Gainesville, Florida.

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MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

SNM-50

Docket or Reference Number

070-00049

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CONDITIONS

Continued

11. The Radiation Protection Officer for this license is Donald L. Munroe.
12. Licensed material shall be used by, or under the supervision of, individuals designated by the University of Florida Radiation Control Committee, **F. Eugene Dunnam, Ph.D., Chairman.**
13.
 - A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.
 - B. In the absence of a certificate from a transferor indicating that a leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
 - C. Any source in storage and not being used need not be tested. When the source is removed from storage for use or transfer to another person, it shall be tested before use or transfer.
 - D. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the date the leak test result is known with the U. S. Nuclear Regulatory Commission, Region II, Division of Nuclear Materials Safety, Nuclear Material Licensing/Inspection Branch, 101 Marietta Street, Suite 2900, Atlanta, Georgia 30323. The report shall specify the source involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.
 - E. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Commission or an Agreement State to perform such services.
14. Sealed sources containing licensed material shall not be opened by the licensee.
15. The license does not authorize the insertion of licensed materials into any nuclear reactor.
16. The licensee shall maintain records of information important to safe and effective decommissioning at the University of Florida campus, Gainesville, Florida in accordance with the provisions of 10 CFR 70.25(g) until this license is terminated by the Commission.
17. The licensee shall maintain a funding plan for decommissioning of its facilities pursuant to the provisions of 10 CFR 70.25 and this license.

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Continued

18. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Letter dated July 2, 1991
 - B. Application dated August 27, 1993
 - C. Letter dated April 19, 1994 [Clarifying information about storage and intended use of unsealed special nuclear material. [Also provides a Statement of Intent for \$25,000.]
 - D. NRC letter dated March 1, 1996 [extends expiration date in accordance with 10 CFR 30.36]
 - E. Letter dated November 21, 1996 [changes Chairman, Radiation Safety Committee]

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

DAVID J. COLLINS

Date

DEC 09 1996

By



Region II, Division of Nuclear Materials Safety
101 Marietta Street, Suite 2900
Atlanta, GA 30323

N:\n license\SNM-50.a13



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0189

DEC 09 1996

INFORMATION FOR NRC MATERIAL LICENSEES

Please find enclosed: ☒ Your NRC material license
☐ Amendment to your NRC material license
☐ Amendment renewing your NRC material license
☐ Amendment terminating your NRC material license
☐ Notice for Radiographer Quality Assurance Approval Program

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify this office (ATTN: Ms. Diane Heim at (404) 331-4673) so that we can provide appropriate corrections and answers.

Please be advised that your license expires at the end of the day in the month and year stated in the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR 19, "Notice, Instructions and Reports to Workers Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Not possess and use materials authorized in Items 6, 7, and 8, on the license until:
 - a. you have constructed the facilities and obtained the equipment described in the license application and supporting documentation; and
 - b. you have notified the U. S. Nuclear Regulatory Commission, Region II, ATTN: Materials Licensing/Inspection Branch, in writing, that activities authorized by the license will be initiated
 - c. you have submitted & certified implementation of a Quality Management Program (10 CFR 35.32) for radiotherapy, or for administering > 30 uCi of I-125 or I-131.
3. Notify NRC, in writing, within 30 days:
 - a. when an authorized user, Radiation Safety Officer, or Teletherapy Physicist permanently discontinues performance of duties under the license or has a name change; or
 - b. when the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).
4. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
 - a. when you decide to terminate all activities involving materials authorized under the license;
 - b. if you decide not to complete the facility, acquire equipment, or possess and use authorized material.

5. Request and obtain a license amendment before you:

- a. receive or use byproduct material for a clinical procedure permitted under Part 35 but not permitted by your license issued pursuant to this part.
- b. permit anyone, not authorized under 10 CFR 35, Subpart J, to work as an authorized user under a license for medical use of byproduct material.
- c. permit anyone, not authorized under 10 CFR 35, Subpart J, to work as a Radiation Safety Officer, Teletherapy Physicist, or Nuclear Pharmacist, under a license for medical use of byproduct material.
- d. order byproduct material in excess of the amount, or a different radionuclide or form, other than authorized on the license;
- e. add or change the areas of use or address (or addresses) of use identified in the license application or on the license; or
- f. change ownership of your organization.

6. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. Transfer of licensed materials must be consistent with 10 CFR 30.41, 40.51 or 70.42, as applicable. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a Notice of Violation, or imposition of a Civil Penalty, or an order suspending, modifying or revoking your license as specified in the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, (7/95). Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken against those who do not achieve the necessary attention to detail and standard of compliance expected of licensees.

Thank you for your cooperation.

Enclosures:

1. NRC License
2. Category Marked Below for:
 - ☐ New licenses: NUREG-1600 (7/95); 19; 20; 30; 40 or 70, as appropriate; 71; 170; NRC Form J, Agreement State list; and NRC Form 313.
 - ☐ New radiography licenses: Parts 34; 150.
 - ☐ New medical and teletherapy licenses: Part 35.
 - ☐ Amendments and renewals: NRC Form 313.

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

: (FOR LFMS USE)
: INFORMATION FROM LTS
: -----
:
: Program Code: 22111
: Status Code: 0
: Fee Category: EX 1D
: Exp. Date: 20040430
: Fee Comments: 170.11(A)(4)
: Decom Fin Assur Req: Y
:

LICENSE FEE TRANSMITTAL

A. REGION II

1. APPLICATION ATTACHED

Applicant/Licensee: FLORIDA, UNIVERSITY OF
Received Date: 961125
Docket No: 7000049
Control No.: 257291
License No.: SNM-50
Action Type: Amendment

2. FEE ATTACHED

Amount: NONE
Check No.: _____

3. COMMENTS

Signed DIANE HEIM
Date 11/26/96

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered ☒)

1. Fee Category and Amount: EX 1D

FEE EXEMPT

2. Correct Fee Paid. Application may be processed for: 170.11(A)(4)

Amendment ☒
Renewal _____
License _____

3. OTHER _____

Signed Auto. Messian
Date 12/2/96

RECEIVED BY LFMS	
Date	<u>11/29/96</u>
Log	<u>Sec 1 II</u>
By	<u>Kim</u>
Date Completed	<u>12/2/96</u>



UNIVERSITY OF FLORIDA

Administrative Affairs

Division of Environmental Health and Safety
Radiation Control and Radiological Services Department

P.O. Box 118340
212 Nuclear Sciences Center
Gainesville, Florida 32611-8340
Telephone (352) 392-7359
Suncom (352) 622-7359
Fax (352) 846-0489

November 21, 1996

U.S. Nuclear Regulatory Commission
Region II
Nuclear Materials Licensing Section
101 Marietta Street, NW, Suite 2900
Atlanta, GA 30323

Gentlemen:

I request the Materials License SNM-50 be amended to indicate a new chairman of the Radiation Control Committee. Joseph T. Barron, Jr. has resigned his position with the university. F. Eugene Dunnam, Ph.D. has been appointed as Chairman. Enclosed is a listing of the membership of the Radiation Control Committee and Dr. Dunnam's CV.

If additional information to support this license amendment request is required, please contact me.

Sincerely,

Donald L. Munroe
Radiation Control Officer

enclosures

257291

RADIATION CONTROL COMMITTEE MEMBERS

Member	Mailing Address	Phone
Dr. Phillip M. Achey Professor Microbiology & Cell Science	PO Box 110330	392-1439
Dr. F. Eugene Dunnam (Chairman) Professor Physics	PO Box 118440	392-1444
Dr. Robert J. Hanrahan Professor Chemistry	PO Box 117200	392-1442
Dr. David E. Hintenlang Associate Professor Nuclear & Radiological Engineering	PO Box 118300	392-8112
Dr. Michael G. Humphreys-Beher Associate Professor Oral Biology	PO Box 100424	392-4370
Donald L. Munroe (Secretary) Radiation Control Officer Environmental Health & Safety	PO Box 118340	392-7359
Dr. Mihran J. Ohanian Professor & Associate Dean Engineering	PO Box 116500	392-0946
Dr. Gregory Roberts Assistant Professor College of Veterinary Medicine	PO Box 100102	392-4700 X4607
Erin A. Starkey, Esq. Assistant to the General Counsel	PO Box 113125	392-1358
R. Steve Truluck Director Safety/Security Shands	PO Box 100307	395-0109

F. Eugene Dunnam
Professor of Physics, University of Florida

Personal Born January 29, 1931, in Alexandria, Louisiana
Married 1965, Mary Elizabeth McIlrath; two children

Education	B.S.	Louisiana State University	1952	Physics
	M.S.	Louisiana State University	1954	Physics
	Ph.D.	Louisiana State University	1958	Physics

Professional Record

Instructor in Physics, Louisiana State University, 1955-57
 Research Fellow, Louisiana State University, 1957-58
 Assistant Professor of Physics, University of Florida, 1958-67
 Associate Professor of Physics, University of Florida, 1967-75
 Deputy Department Chairman, Department of Physics and Astronomy, University of Florida, 1973-74
 Acting Chairman, Department of Physics and Astronomy, University of Florida, 1974-75
 Professor of Physics and Chairman, Department of Physics and Astronomy, University of Florida, 1975-79
 Associate Dean, College of Liberal Arts and Sciences, University of Florida, 1979-87
 Senior Associate Dean, College of Liberal Arts and Sciences, University of Florida, 1987-90
 Professor of Physics, University of Florida, 1990-

Other Professional Activities

Florida Coordinator, *Continental Classroom*, 1959-60
 Consultant, Thermonuclear Division, Oak Ridge National Laboratory, 1961-64
 Lecturer, Oak Ridge Associated Universities Mobile Radioisotope Laboratory, 1967-78
 Florida Nuclear Advisory Committee, 1967-70
 Invited Participant, 1st, 2nd, 3rd, 4th, and 5th International Symposia on the Structure of Low-Medium Mass Nuclei, 1964-66-68-70-72 (participation limited to 50)
 Principal Scientist, U.F. Van de Graaff Accelerator — 1966-67; 1970-73
 Chair, Conferences & Workshops Committee, Oak Ridge Associated Universities, 1986-89
 Steering Committee Member and/or Session Chair, I-V and IX-XIV Conferences on Scientific and Industrial Applications of Small Accelerators (1970-96)
 Editorial Consultant to the following publishers: Van Nostrand, Prentice-Hall, Wiley
 Invited Participant and Session Chair, Workshop on Properties of Deformed Nuclei (Tallahassee, FL, March 1987)
 Organizing Committee member and Session Chair, International Conference on the High Energy Radiation Background in Space (Sanibel, FL, 11/87)
 Referee for *Nuclear Instruments & Methods in Physics Research B*, 1992-

Membership in Professional Societies

American Physical Society (including Southeastern Section and Divisions of Nuclear and Cosmic Physics)
American Association of Physics Teachers
American Association for the Advancement of Science
Florida Academy of Sciences
American Guild of Organists

Honorary Societies

Sigma Xi
Sigma Pi Sigma (Physics)
Delta Phi Alpha (German)
Listed in *Who's Who, American Men and Women of Science*, and *Who's Who in the Southeast*

Grants

"Nuclear Astrophysics," National Aeronautics and Space Administration,
11/64-10/67 \$ 71,376
"Undergraduate Laboratory Improvement Program," National Science Foundation
6/76-5/78 \$ 19,000
Tektronix, Inc. (equipment matching for above grant \$ 12,000
"Studies of Nuclei Far From Stability," U.S. Department of Energy
10/81-9/83 (co-investigator with A.C. Rester) \$ 79,824
"Interplanetary Dust and Sky Background Radiation," U.S. Department of
Defense 10/82-3/83 (co-investigator with A.C. Rester \$172,015
"Shuttle Flight Test of an Advanced Gamma Ray Detection System," U.S. Department of
Defense 4/83-11/84 (co-investigator with A.C. Rester) \$1,025,091
"Continued Studies of Nuclei Far From Stability," U.S. Department of
Energy 4/84-2/85 (co-investigator A.C. Rester) \$ 80,000
"Shuttle Flight Test of an Advanced Gamma Ray Detection System," U.S. Department
of Defense 12/84-11/85 (co-investigator with A.C. Rester) \$537,289
"Continued Studies of Nuclei Far From Stability," U.S. Department of Energy
2/85-1/86 (co-investigator with A.C. Rester) \$100,000
"Shuttle Flight Test of an Advanced Gamma Ray Detector System," U.S. Department
of Defense 12/85-11/86 (co-investigator with A.C. Rester) \$470,388
"High Altitude Balloon Flight Test of the GRAD Experiment," U.S. Department
of Defense 11/87-11/89 (co investigator with A.C. Rester) \$234,559

Publications

A. Journal Articles

H.R. Weller, H.A. Van Rinsvelt, and F.E. Dunnam, "Observation of T=0 and T=1 Alpha Particle States in ^{16}O between $E_x = 26$ and 29 MeV," *Phys. Letters* **27B**, 283-284 (1968).

R.J. Jaszczak, R.L. Maclin, F.E. Dunnam, H.A. Van Rinsvelt, and R. H. Bloomer, "The Use of a Pulsed Van de Graaff Accelerator and Time-of-Flight Techniques to Reduce Backgrounds in (α, γ) Spectroscopy Experiments," *Rev. Sci. Instr.* **42**, 44-58 (1971).

R.E. Clarke, F.E. Dunnam, and H.A. Van Rinsvelt, "Levels in ^{36}Ar and ^{39}Ar from Alpha Capture in ^{32}S and ^{34}S ," *Nucl. Phys.* **A171**, 209-315 (1971).

J.P. Russell, W.E. Taylor, F.E. Dunnam, and H.A. Van Rinsvelt, "Levels in ^{30}Si Excited by the $^{26}\text{Mg}(\alpha, n)^{29}\text{Si}$, $^{26}\text{Mg}(\alpha, \gamma)^{30}\text{Si}$ and $^{26}\text{Mg}(\alpha, \alpha')^{26}\text{Mg}$ Reactions," *Nucl. Phys.* **A187**, 449-452 (1972).

P.S. Haskins, F.E. Dunnam, R.L. Coldwell, A.C. Rester, R.B. Piercey, M.L. Muga, H.A. Van Rinsvelt, R.W. Smart, H.J.M. Aarts, J.D. Fox, L.C. Dennis, and C.B. Saw, "In-Beam Gamma-Ray Spectroscopy of ^{82}Sr ," *Phys. Rev.* **C32** 1897-1910 (1985).

A.C. Rester, R.L. Coldwell, F.E. Dunnam, G. Eichhorn, J.I. Trombka, R. Starr, and G.P. Lasche, "Gamma-Ray Observation on Supernova 1987A from Antarctica," *Astrophysical Journal Letters* **342**, L 71 (1989).

B. Reports and Conference Proceedings

H. Postma, D.P. Hamblen, F.E. Dunnam, and L.A. Massengill, Jr., "Cross-Section Measurements, *Thermonuclear Division Semiannual Report*, Oak Ridge National Laboratory, July 31, 1961, pp.110-115.

F.E. Dunnam, "Conference Summary," *Proceedings of the First Conference on the Use of Small Accelerators for Teaching and Research*, U.S. Atomic Energy Commission Report CONF-680411 (1968), pp.453-455.

J.P. Russell, W.E. Bloch, H.A. Van Rinsvelt, and F.E. Dunnam, "Trace Element Determination in Complex Environmental Samples by Ion-Induced X-Rays," *Proceedings of Conference on Analytical Chemistry in Nuclear Technology*, Oak Ridge, Tenn., p.34 (1973).

H.A. Van Rinsvelt, F.E. Dunnam, J.P. Russell, and W.E. Bloch, "Environmental Aspects of Ion-Induced X-Ray Emission by Infinitely Thick Targets," *Proceedings of the Third Conference on Small Accelerators*, USAEC (CONF-741040-PL), p.148 (1974).

P.S. Haskins, R.B. Piercey, H.J.M. Aarts, R.L. Coldwell, F.E. Dunnam, J.L. Muga, A.C. Rester, W. Smart, J.D. Fox, L. Dennis, and C.B. Saw, "Observation of Two Quasiparticle States in ^{82}Sr ," *Proceedings of Conference on High Angular Momentum Properties of Nuclei*, Oak Ridge, Tenn., Nov. 2-4, 1982, Vol. I, p.59.

A.C. Rester, F.E. Dunnam, F. Giovane, P.S. Haskins, R.B. Piercey, and J.L. Weinberg, "Preliminary Report on the Performance of a BGO-Shielded Compton-Suppression Spectrometer," *Proceedings of Conference on High Angular Momentum Properties of Nuclei*, Oak Ridge, Tenn., Nov. 2-4, 1982, Vol. I, p. 122.

A.C. Rester, R.B. Piercey, F. Giovane, P.S. Haskins, A.H. Moffitt, II, J.L. Weinberg, F.E. Dunnam, and J.B. Hendricks, "Application of BGO to a Space Shuttle Experiment," invited paper presented at International Workshop on Bismuth Germanate, Princeton University, Nov. 10-13, 1982, Princeton University Department of Physics Report (1983).

R.B. Piercey, F.E. Dunnam, M.L. Muga, A.C. Rester, A.V. Ramayya, J.H. Hamilton, J. Eberth, E.F. Zganjar, "A New Five-Segment, Annular, Neutron Detector Array," *Conference on Instrumentation for Heavy-Ion Nuclear Research*, Oak Ridge, TN, Oct. 1984, p. 27.

A.V. Ramayya, S. Robinson, M.A. Herath-Banda, W.C. Ma, J.H. Hamilton, P.S. Haskins, F.E. Dunnam, M.L. Muga, R.B. Piercey, A.C. Rester, "A New Four-Element Compton Polarimeter," *Conference on Instrumentation for Heavy-Ion Nuclear Research*, Oak Ridge, Tenn., Oct. 1984, p. 23

R.L. Coldwell, F.E. Dunnam, M. Katoot, and P.S. Haskins, "Interactions of Multi-Mev Gamma-Rays with Matter." *Proceedings of the Conference on the High Energy Radiation Background in Space*, American Institute of Physics Conference Proceedings Vol. 186, 125 (1989).

G. Eichhorn, R.L. Coldwell, F.E. Dunnam, A.C. Rester, J.I. Trombka, R. Starr, and G.P. Lasche, "The GRAD High-Altitude Balloon Flight Over Antarctica." *AIP Conference Proceedings* Vol. 186, 359 (1989).

C. Published Abstracts of Papers Given at Professional Meetings

D.C. Ralph and F.E. Dunnam, "Neutron Yields as a Function of Energy in the Reactions $\text{Li}^7(\text{d},\text{n})\text{Be}^9(\text{d},\text{n})\text{B}^{10}$," *Phys.Rev.* **98**, 249 (1955).

F.E. Dunnam, "Remarks on the Teaching of Physics via *Continental Classroom*," *Am. J. Phys.* **27** 5332 (1960).

F.E. Dunnam, "An Advanced Laboratory in Atomic and Nuclear Physics," *Am. J. Phys.* **34**, 62 (1966).

P.N. Carlton and F.E. Dunnam, "Nuclear Levels in Sulfur Excited by the (He^4,γ) Reaction," *Bull. Am. Phys. Soc.* **11**, 737 (1966).

C.J. Butler and F.E. Dunnam, "Excited States of K^{41} from the $\text{A}^{40}(\text{p},\gamma)\text{K}^{41}$ Reaction," *Bull. Am. Phys. Soc.* **13**, 236 (1968).

H.R. Weller, H.A. Van Rinsvelt, and F.E. Dunnam, "Measurement of the $^{13}\text{C}(^3\text{He}, ^4\text{He}_{15.1})^{12}\text{C}$ and $^{13}\text{C}(^3\text{He}, ^4\text{He}_{12.71})^{12}\text{C}$ Excitation Curves Below 8 MeV," *Bull. Am. Phys. Soc.* **13**, 1424 (1968).

Sara Wood and F.E. Dunnam, "6.5 MeV State in ^7Be ," *Bull. Am. Phys. Soc.* **13**, 1698 (1968).

J.P. Russell, F.E. Dunnam, and H.A. Van Rinsvelt, "Investigation of Excited States of ^{30}Si with the $^{26}\text{Mg}(\alpha, \alpha')^{26}\text{Mg}$ Reaction," *Bull. Am. Phys. Soc.* **15**, 1329 (1970).

F.E. Dunnam, H.A. Van Rinsvelt, R.H. Bloomer, R.J. Jaszczak, and R.L. Macklin, "Investigation of the Gamma Decay of States in ^{18}O with the $^{14}\text{C}(\alpha, \gamma)^{18}\text{O}$ Reaction," *Bull. Am. Phys. Soc.* **15**, 1686 (1970).

R.E. Clarke, F.E. Dunnam, and H.A. Van Rinsvelt, "Radiative Capture of Alpha Particles by ^{23}Na ," *Bull. Am. Phys. Soc.* **16**, 490 (1971).

J.P. Russell, W.E. Taylor, F.E. Dunnam, and H.A. Van Rinsvelt, "Investigations of Excited States in ^{30}Si with the $^{26}\text{Mg}(\alpha, n)^{29}\text{Si}$ and $^{26}\text{Mg}(\alpha, \gamma)^{30}\text{Si}$ Reactions," *Bull. Am. Phys. Soc.* **16**, 1177 (1971).

H.A. Van Rinsvelt, J.P. Russell, W.E. Taylor, F.E. Dunnam, and J.W. Nelson, "Study of Excited States in ^{30}Si through the $^{26}\text{Mg}(\alpha, n)^{29}\text{Si}$ Reaction," *Bull. Am. Phys. Soc.* **18**, 551 (1973).

F.E. Dunnam, "A Course in Musical Acoustics for Music and Arts Majors," *Bull. Am. Phys. Soc.* **22**, 1264 (1977).

F.E. Dunnam, P.S. Haskins, A.C. Rester, H.A. Van Rinsvelt, and R.W. Smart, "Energy Levels in ^{82}Sr from in-Beam Studies of the $^{70}\text{Ge}(^{16}\text{O}, 2p, 2n)$ Reaction," *Bull. Am. Phys. Soc.* **25**, 724 (1980).

P.S. Haskins, R.B. Piercey, H.J. M. Aarts, R.L. Coldwell, F.E. Dunnam, M.L. Muga, A.C. Rester, W. Smart, J.D. Fox, L.C. Dennis, A.D. Frawley, and C.B. Saw, "Band Structure in ^{82}Sr ," *Bull. Am. Phys. Soc.* **29**, 659 (1984).

R.B. Piercey, F.E. Dunnam, P.S. Haskins, M.L. Muga, A.C. Rester, and R.W. Smart, "Gamma-Ray Angular Distribution Coefficients in ^{82}Sr ," *Bull. Am. Phys. Soc.* **29**, 1035 (1984).

P.S. Haskins, M.A. Herath-Banda, R.L. Coldwell, F.E. Dunnam, M.L. Muga, A.C. Rester, J.K. Blackburn, Z. Milosevich, and J.D. Fox, "Gamma-Ray Linear Polarization Measurements of ^{72}Br ," *Bull. Am. Phys. Soc.* **31**, 772 (1986).

R.B. Piercey, M.A. Herath-Banda, and F.E. Dunnam, "The Coulomb Re-excitation (CRE) of Radioactive Nuclei," *Bull. Am. Phys. Soc.* **31**, 835 (1986).

A.C. Rester, G. Eichhorn, R.L. Coldwell, F.E. Dunnam, J. I. Trombka, R. Starr, and G.P. Lasche, "Gamma-Ray Spectrum Observations of SN1987A from Antarctica," *Bull. Am. Phys. Soc.* **33**, 988 (1988).

M.L. Muga, Z. Milosevich, R.L. Coldwell, and F.E. Dunnam, "LEHIFI: a Low Energy Heavy Ion Fragment Identifier," *Bull. Am. Phys. Soc.* **35**, 1796 (1990).