

TECHNOLOGY RESUME			DF385315		REPORT CONTROL SYM
1. DATE OF RESUME 10 10 66	2. KIND OF RESUME D. Change 01 06 66	3. SECURITY RPT U U	4. REGRADING N/A	5. RELEASE LIMITATION FO NF	6. LEVEL OF RESUME A. Work Uni
100. CURRENT NUMBER/CODE 405154 7757 01 005			105. PRIOR NUMBER/CODE 62405124 7757 01 005		
7. TITLE: <i>CALIBRATION AND EXPANSION OF DOSIMETRIC CAPABILITY</i>					
12. SCIENTIFIC OR TECH. AREA			13. START DATE	14. CRIT. COMPL. DATE	15. FUNDING AGENCY
16. PROCEDURE METHOD <i>In House</i>	17. CONTRACT GRANT a. DATE b. NUMBER c. TYPE d. AMOUNT		18. RESOURCES EST. PRIOR FY CURRENT FY	a. PROFESSIONAL MAN-YEARS	b. FUNDS (In thousands)
19. GOV'T LAB/INSTALLATION/ACTIVITY NAME ADDRESS USAF School of Aerospace Medicine Brooks AFB, Texas 78235			20. PERFORMING ORGANIZATION NAME ADDRESS USAF School of Aerospace Medicine Brooks AFB, Texas 78235		
RESP. INDIV. TEL Mitchell, John C., SMBRH 512 532 8811 5211			INVESTIGATORS PRINCIPAL ASSOCIATE TEL Mitchell, John C., SMBRH 512 532 8811 5211 TYPE DF		
21. TECHNOLOGY UTILIZATION			22. COORDINATION		
23. KEYWORDS			AIR4.950109.010		

**(U) Technical Objectives:** To improve the accuracy of measuring radiation exposure and of measuring doses received from radiation of widely differing energies, types, and rates, in support of various radiobiological research efforts.

**(U) Approach:** Several different types of dosimeter systems are under investigation including (1) thermoluminescent, radiophotoluminescent, and chemical. Studies include systematic exposures of the different dosimeters to a wide variety of nuclear radiation types, intensities, and total doses. Exposures are currently being made with protons, electrons, neutrons, and a wide range of electromagnetic radiations.

**(U) Progress:** A nominal 100 curie in air gamma radiator point source is now being used as a calibration source. It is also correlated with Victoreen r-chamber measurements. A new type of TLD dosimeter system has been placed in operation as a part of this work task and our in-house capability now includes the use of both TLD powder and TLD rods.

27. COMMUNICATIONS SECURITY <input type="checkbox"/> COMSEC OR COMSEC RELATED <input type="checkbox"/> NOT RELATED	28.	29. OSD CODE	30. BUDGET CODE
31. MISSION OBJECTIVE		32. PARTICIPATION	
33. REQUESTING AGENCY		34. SPECIAL EQUIPMENT	
35. EST. FUNDS (In thousands)		36.	
FORM 1498 1 AUG 64		Lt Col Dan Brown HQ AFMDA/SGPT 202-767-5078 Biological Effects R&D 13A5370-Box Suitland Records Ctr	

RESEARCH AND TECHNOLOGY RESUME		1. GOVT ACCESSION	2. AGENCY ACCESSION	3. REPORT CONTROL SYM.
4. YEAR OF RESUME	5. KIND OF RESUM.	6. SECURITY	7. REGRADING	8. RELEASE LIMITATION
30 11 67	D. Change 10 10 66	U RPT U WRK	N/A	NL
10a. CURRENT NUMBER/CODE		10b. PRIOR NUMBER/CODE		
6240515F 7757 01 005		62405154 7757 01 005		
11. TITLE Calibration and expansion of Dosimetry Capability				
12. SCIENTIFIC OR TECH. AREA		13. START DATE	14. CRIT. COMPL. DATE	15. FUNDING AGENCY
16. PROCURE. METHOD		17. CONTRACT GRANT		18. RESOURCES EST.
in-house		a. DATE		19. PROFESSIONAL MAN-YEARS
b. NUMBER		c. DATE		20. FUNDS (In thousands)
c. TYPE		d. AMOUNT		
19. GOVT LAB/INSTALLATION/ACTIVITY		20. PERFORMING ORGANIZATION		
NAME		NAME		
ADDRESS		ADDRESS		
RESP. INDIV.		INVESTIGATORS		
TEL.		PRINCIPAL		
		ASSOCIATE		
		TEL.		
		TYPE		
21. TECHNOLOGY UTILIZATION		22. COORDINATION		
23. KEYWORDS <i>and implement <del>dosimeter</del></i>				
24. Objective: (U) To develop <del>more precise</del> <i>and depth dose distribution to ionizing radiation</i> techniques and dosimeter systems for measuring radiation doses resulting from exposures to all types, energies, and intensities of radiation.				
25. Approach: (U) Several types of both active and passive dosimeter systems are being studied and developed. Applications range from the use of NBS calibrated tissue equivalent ionization chambers (TEIC) to establish precise exposure rates to the use of very thin (20 micron) <del>dosimeters</del> <i>thermoluminescent dosimeters</i> to measure short range depth dose <del>profiles</del> <i>profiles</i> in animals. Studies include systematic investigations of energy dependence, linear response, saturation effects, sensitivities, etc. to electrons, protons, neutrons, gammas, and x-rays.				
26. Progress: (U) The capability of using several types of thermoluminescent dosimeters has been developed and is being actively used in all of our radiobiological research. A program has been established (through the National Bureau of Standards) to use Ferrous Sulfate (Fricke) dosimeters to compare and cross-correlate electron dose measurements with other medical agencies.				
27. COMMUNICATIONS SECURITY		28.	29. OSD CODE	30. BUDGET CODE
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31. MISSION OBJECTIVE		32. PARTICIPATION		
REQUESTING AGENCY		33. SPECIAL EQUIPMENT		
34. EST. FUNDS (In thousands)		35. SPECIAL EQUIPMENT		
DD FORM 1498 (Rev. 64)		Lt Col Dan Brown HQ AFMDA/SGPT 202-767-5078 Biological Effects RAD 13A5370-Bo4 Suitland Records Ctr		
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