Task Book Report Generated on: 04/19/2024

P. Name:   Czirr, John B Ph.D.   Specimencopie Dosimeter   Specimenc	Fiscal Year:	FY 2009	Task Last Updated:	FY 06/22/2009
Human Research   Human Research   Program/Discipline:   HUMAN RESEARCH   Program Elements   HUMAN RESEARCH   Program Risk   HUMAN RESEARCH   Acute Radiation Syndromes Due to Solar Particle Events (SPFs)   Col Cancer-Risk of Radiation Carcinogenesis   Col Cancer-Risk of Radiation Carcinogen	PI Name:	Czirr, John B Ph.D.		
Human Research   Human Research   Program/Discipline:   HUMAN RESEARCH   Program Elements   HUMAN RESEARCH   Program Risk   HUMAN RESEARCH   Acute Radiation Syndromes Due to Solar Particle Events (SPFs)   Col Cancer-Risk of Radiation Carcinogenesis   Col Cancer-Risk of Radiation Carcinogen	Project Title:	· · · · · · · · · · · · · · · · · · ·		
Program/Discipline: Program/Discipline- Element/Subdiscipline- Element/Subdiscipline- Element/Subdiscipline- Joint Agency Name: Joint Agency Name: (1) SR-Space Radiation  (1) SR-Space Radiation (1) SR-Space Radiation (1) SR-Space Radiation (1) SR-Space Radiation (1) SR-Space Radiation (1) SR-Space Radiation (1) SR-Space Radiation (1) SR-Space Radiation (1) SR-Space Radiation (2) Cancer-Risk of Radiation Carcinogenesis (3) Cancer-Risk of Radiation Exposure and Other Degenerative Tissue Effects from Radiation Exposure and Secondary Space-flight Stressors  Space Biology Cross-Element None Space Biology Cross-Element None Space Biology Cross-Element None Space Biology Special Category: None PI Email: Data-Ziring Institute Space Data				
	Division Name:	Human Research		
	Program/Discipline:	HUMAN RESEARCH		
Human Research Program Elements: (1) SR-Space Radiation  (1) Ags.Risk of Acatt Radiation Syndromes Due to Solar Particle Events (SPEs) (2) Cancer-Risk of Radiation Caccinogenesis (3) CANSR Side of Acatt Carlifally and Late Central Nervous System Effects from Radiation Exposure (4) Depart Risk of Canditonscular Disease and Other Degenerative Tissue Effects From Radiation Exposure and Secondary Spacellight Stressors  Space Biology Element:  None  Space Biology Cross-Element  None  Space Biology Special Category:  None  PI Email:  bart czint/filmissionsunoortus  Fax: FY  Plo Organization Type:  Space Biology Special Category:  No Merrill Corporation of Utah, dba MSI Photogenics  Pl Address 1:  515 East 1860 South  Pl Address 2:  Pl Web Page:  City:  Provo  State: UT  Zip Code:  84606-7312  Congressional District: 3  Comments:  Project Type:  GROUND  GROUND  Solicitation / Funding ShIR Phase II  Source:  No. of Phot Degress:  No. of Phot Degress:  No. of Phot Degress:  No. of Phot Degress:  No. of Phot Dadidates:  No. of Bachelor's Candidates:  No. of Master' Candidates:  No. of Master' Candidates:  No. of Master' Candidates:  No. of Master's Candidates:  No. of		HUMAN RESEARCHRadiation health		
Human Research Program Risks:  (1) ARS/Risk of Acuttle Radiation Carcinogenesis (2) Cancer-Risk of Radiation Carcinogenesis (3) CAS/Risk of Acuttle (Indipt) and Late Central Nervous System Effects from Radiation Exposure and Secondary Spaceflight Stressors  Space Biology Cross-Element  None  Space Biology Cross-Element  None  Space Biology Cross-Element  None  Space Biology Special Category: None  PI Email:  None  No	Joint Agency Name:		TechPort:	No
Human Research Program Risks:    Carta Car	<b>Human Research Program Elements:</b>	(1) SR:Space Radiation		
Space Biology Cross-Element Discipline:         None           Space Biology Special Category:         None           PI Email:         banc           PI Organization Type:         INDUSTRY         Phone: (801) 374-6722           Organization Name:         Merrill Corporation of Utah, dba MSI Photogenics           PI Address 1:         515 East 1860 South         Fra: PY           PI Address 2:         PI Web Page:         Prove         State: UT           Zip Code:         84606-7312         Congressional District: 3         Comments:           Comments:           Project Type:         GROUND         Solicitation / Funding Source: SIR Phase II         Source: Surar Date: No. of PhD Degrees: No. of Master's Candidates: No. of Master's Degrees: No. of Master's Candidates: No. of Bachelor's Candidates: No. of Bachelor's Degrees: No. of Bachelor's Candidates: Monitoring Center: NASA JSC         Monitoring Center: NASA JSC         Contact Monitor: Contact Phone: 281-483-0968         Contact Email: Nonescess@mass.gov         Flight Program:         Flight Assignment: NOTE: End date changed to 12/31/2010 (previously 6/18/2010), per S. Krenek/JSC (7/2010)         Key Personnel Changes/Previous PI: COI Name (Institution):         None (Institution): None (Institution): None (Institution): None (Institution): None (Institution): None (Institution): None (Institution): None (Institution): None (Institution): None (Institution): None (Institution): None (Institution):	Human Research Program Risks:	<ul> <li>(2) Cancer:Risk of Radiation Carcinogenesis</li> <li>(3) CNS:Risk of Acute (In-flight) and Late Cent</li> <li>(4) Degen:Risk of Cardiovascular Disease and C</li> </ul>	ral Nervous System Effects from Radiation	
Discipline:         None           Space Biology Special Category:         None           PI Email:         bart ceinfamissionsupport us         Fax:         FY           PI Organization Type:         INDUSTRY         Phone:         (801) 374-6722           Organization Name:         Merrill Corporation of Utah, dba MSI Photogenics           PI Address 1:         15 East 1860 South           PI Address 2:         Prove         State:         UT           Use Page:         City:         Provo         State:         UT           Zip Code:         84606-7312         Congressional District:         3           Comments:         Project Type:         GROUND         Solicitation / Funding Surres:         SBIR Phase II Source:           Start Date:         02/19/2009         End Date:         12/31/2010           No. of PhD Candidates:         No. of Master's Degrees:         No. of PhD Candidates:         No. of Master's Degrees:           No. of Master's Candidates:         No. of Bachelor's Degrees:         No. of Bachelor's Candidates:         No. of Bachelor's Candidates:         No. of Bachelor's Candidates:         No. of Master's Candidates:	Space Biology Element:	None		
PI Email:         bart czirwamissionsupportus         Fax: FY           PI Organization Type:         INDUSTRY         Phone: (801) 374-6722           Organization Name:         Merrill Corporation of Utah, dba MSI Photogenics           PI Address 1:         515 East 1860 South           PI Address 2:         ************************************		None		
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Task Description:	Analysis of Phase I test data demonstrates that the Photogenics Spectroscopic Dosimeter will detect neutron energies from 0.8 up to 600 MeV. The detector efficiencies in the energy region of interest to NASA of 0.5 to 150 MeV were predicted by MCNP-X models. These models were partially confirmed by the tests at the EAL and LANSCE, with a high confidence in the data for the 1-14 MeV range and a confirmation of the detector's spectroscopic capabilities between 15-150 MeV. Further analysis of the high energy data will be performed in Phase II.  Using the detection efficiencies determined Phase I and the IRCP74 damage coefficients, doses have been calculated for the neutron fluxes encountered in the test facilities. During Phase II a full-scale working model of the spectroscopic dosimeter will be fabricated and tested.  POTENTIAL NASA COMMERCIAL APPLICATIONS: NASA is seeking improved neutron spectroscopy to enhance its characterization of the space environment and has also identified a need for improved accuracy in the estimate of neutron dose experienced by astronauts on long duration space missions.	
Rationale for HRP Directed Research:		
Research Impact/Earth Benefits:	The NASA version of the dosimeter can be redesigned for use in radiation safety monitoring at a wide variety of facilities concerned with potential radiation hazards, i.e. laboratories, university research facilities, and private nuclear power plants.	
Task Progress:	New project for FY2009. Reporting not required for this SBIR Phase 2 project.	
Bibliography Type:	Description: (Last Updated: )	