U.S. DEPARTMENT OF ENERGY

FIELD WORK PROPOSAL

1. WORK PROPOSAL NO.:	2. REVISION NO.:	3. DATE PREPARED:
JLAB-HEP-02		April 2016

4. WORK PROPOSAL TITLE:	5. BUDGET AND REPORTING CODE:
Dislocation Substructures on the Functional Properties of Niobium for SRF Cavities, focusing on microstructural, microchemical, and electromagnetic characteristic for Florida State University	KA2601020

6. WORK PROPOSAL TERM: Begin 6/1/16 End 5/31/19

7. HEADQUARTERS OFFICE PROGRAM MANAGER:	8. HEADQUARTERS ORGANIZATION:
Eric Colby, (301) 903-5475 Eric.Colby@science.doe.gov	Office of Science
9. DOE FIELD ELEMENT WORK PROPOSAL REVIEWER:	10. DOE FIELD ELEMENT:
Joseph Arango, (757) 269-5094 arango@jlab.org	Thomas Jefferson Site Office
11. CONTRACT WORK PROPOSAL MANAGER:	12. CONTRACTOR NAME:
Pashupati Dhakal, (757) 269-7470 dhakal@jlab.org	Jefferson Science Associates, LLC, Thomas Jefferson National Accelerator Facility (Jefferson Lab)

13. Proposal Description

Funding is being requested pursuant to a proposal that was submitted and reviewed through the Portfolio Analysis and Management System (PAMS). PAMS Proposal ID: 222686.

Superconducting cavities are the integral part of many energy-efficient particle accelerators around the world. The current material of choice for superconducting cavities is niobium, which is the material with the highest transition temperature among pure metals. The performance of SRF cavities are influenced by the fabrication and processing steps. We plan to study the microstructural, microchemical and electromagnetic properties of Nb that are processed similar to the cavity processing steps to identify and mitigate the limiting factors to improve the performance of SRF cavities.

14. CONTRACTOR WORK PROPOSAL MANAGER	15. OPERATIONS OFFICE REVIEW OFFICIAL
Signature 4-21-2016 Date	Signature Date

16. DETAIL ATTACHMENTS

_____ a. Facility Requirements	_____ f. Technical Progress	_____ k. Deliverables
_____ b. Publications	_____ g. Future Accomplishments	_____ l. Performance measures/expectations
_____ c. Purpose	_____ h. Relationships to Other Projects	_____ m. ES&H Considerations
_____ d. Background	_____ i. NEPA Projects	_____ n. Human/Animal Subjects
_____ e. Approach	_____ j. Milestones	_____ o. Other (Specify)

WORK PACKAGE REQUIREMENTS FOR OPERATING/EQUIPMENT OBLIGATIONS AND COSTS

CONTRACTOR NAME:	WORK PROPOSAL #:	REV. #:	DATE PREPARED:
Jefferson Science Associates, LLC. Thomas Jefferson National Accelerator Facility (Jefferson Lab)	JLAB-HEP-02		April 2016

	FY2015 Allocated	FY2016 Target	FY2017 Request	FY2017 Authorized	FY2018 Request	FY2019 Request	FY2020 Request	FY2021 Request
17. STAFFING (STAFF YEARS)								
a. SCIENTIFIC		0.1	0.1		0.1			
b. OTHER DIRECT		0.0	0.0		0.0			
c. TOTAL DIRECT		0.1	0.1		0.1			
18. OPERATING EXPENSE (in thousands)								
a. TOTAL OBLIGATIONS (B/A)		25	25		25			
b. TOTAL COSTS (B/O)		25	25		25			
19. EQUIPMENT (in thousands)								
a. EQUIP OBLIGATIONS (B/A)								
b. EQUIPMENT COSTS (B/O)								

20. MILESTONE SCHEDULE (Tasks)	Dates	Proposed $	Authorized $

21. REPORTING REQUIREMENTS (Description):