Exhibit A

(7/25)

Awards

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Award Abstract #1508680

Transport and Carrier Dynamics Near the Metal-Insulator

NSF Org:	DMR Division Of Materials Research
Initial Amendment Date:	May 21, 2015
Latest Amendment Date:	July 18, 2017
Award Number:	1508680
Award Instrument:	Continuing grant
Program Manager:	James H. Edgar DMR Division Of Materials Research MPS Direct For Mathematical & Physical Scien
Start Date:	September 1, 2015
End Date:	August 31, 2020 (Estimated)
Awarded Amount to Date:	$503,583.00
Investigator(s):	Sanjoy Sarker ssarker@bama.ua.edu (Principal Ir Arunava Gupta (Co-Principal Investigator) Patrick LeClair (Co-Principal Investigator)
Sponsor:	University of Alabama Tuscaloosa 801 University Blvd. Tuscaloosa, AL 35487-0001 (205)348-5152
NSF Program(s):	ELECTRONIC/PHOTONIC MATERIALS, EPSCoR Co-Funding
Program Reference Code(s):	6863, 9150
Program Element Code(s):	1775, 9150

ABSTRACT

Non-technical Description: Vanadium dioxide is a material that undergoes a tr
insulator to an electrical conductor just above room temperature (about 68 de
it to act as an electrical switch, which is an essential functionality required for

(8/25)

However, a complete microscopic understanding of this transition is still lackin applications of this material. This project combines theoretical and experiment develop an in-depth understanding of the microscopic mechanisms for the tra approaches to control it. Experimental characterization acts as a feedback for theoretical models, and these models also make further theory predictions to Various outreach and education activities include: (1) providing the theoretica research experience in highly topical research areas for students; (2) participa internship program to bring in undergraduates during the academic year; (3) findings to industry through long-standing industrial collaborations; and (4) br under-represented groups specifically through an existing collaboration with H Universities.

Technical Description: Vanadium dioxide transforms from a low-temperature ir temperature metallic phase, during which the electrical resistivity can change 100,000, accompanied by a large change in infrared reflectivity. The fundame temperature-driven metal-insulator transition of bulk vanadium dioxide (VO2) debate, over fifty years after its discovery. Specifically, there is a need to unde physics responsible for the anomalous transport properties, in particular the p in the insulating state. The mixed phase cannot be explained in terms of a sim nor can a simple semiconductor or percolation model explain the transport. Th experimental and theoretical efforts, with each providing a crucial feedback fo addresses the relevant physical processes involved, namely electron motion c displacements, at a microscopic level. Detailed experimental transport studies key part of the project, particularly electrical noise and tunneling spectroscop investigating novel transistor-like structures and piezoelectric-induced strain e electrically controlled transition. The theoretical model contains the essential p as a strongly interacting electron-ion system. Non-perturbative many-body te how the transition can occur and metallic clusters appear, beyond the reach of

PUBLICATIONS PRODUCED AS A RESULT OF THIS RESEARCH

Note: *When clicking on a Digital Object Identifier (DOI) number, you will be maintained by the publisher. Some full text articles may not yet be available embargo (administrative interval).*

Some links on this page may take you to non-federal websites. Their policies

A. Kinikar, T. P. Sai, S. Bhattacharyya, A. Agarwala, T. Biswas, S. K. Sarker, H. V. B. Shenoy, and A. Ghosh. "Quantized edge modes in atomic small point con *nanotechnology*, 2016. doi:doi:10.1038/nnano.2017.24doi:doi:10.1038/nnan

S. Keshavarz, N. Naghibolashrafi, M.E. Jamer, K. Vinson, D. Mazumdar, L. Den Borchers, A. Gupta, P.LeClair. "Fe2MnGe: A hexagonal Heusler analogue," *Jour Compounds*, v.771, 2019, p. 793. doi:https://doi.org/10.1016/j.jallcom.2018.07.298doi:https://doi.org/10.1016

Sanjoy K. Sarker Timothy Lovorn. "Spin-charge split pairing in underdoped cu specific heat," *Arxiv.org*, 2017. doi:arXiv:1705.10390doi:arXiv:1705.10390

T. F. Lovorn and S. K. Sarker. "Complex quasi two-dimensional crystalline orde other crystals," *Physical Review Letters*, v.119, 2017, p. 045501. doi:https://doi.org/10.1103/PhysRevLett.119.045501doi:https://doi.org/10.1

Please report errors in award information by writing to: awardsearch@nsf.gov

Print this page

(9/25)

Exhibit B

I. Salary of PI Sanjoy Sarker.
(last pay: 6/29/2018 !)

II. A contract between Plaintiff and PI.

III. Presentation of research results by Plaintiff in APS March Meeting in Baltimore, MA – 2016

IV. Presentation of research results by Plaintiff in APS March Meeting in New Orleans, LA – 2017

(10/25)

Division of
Finance and Operations

THE UNIVERSITY OF ALABAMA

Previous Next Export to CSV

Search Total: $103,556.61

Date	Payee	Category	Agency	Funding Source	Transaction Number	PO Number	Check #	Check Amount
1/31/2017	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2017 MO 1 0		701311519	$8,511.52
2/28/2017	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2017 MO 2 0		702281549	$8,511.52
3/31/2017	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2017 MO 3 0		703311544	$8,511.52
4/28/2017	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2017 MO 4 0		704281540	$8,511.52
5/31/2017	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2017 MO 5 0		705311569	$10,250.77
6/29/2017	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2017 SI 3 0		706290157	$20,427.65
6/30/2017	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2017 MO 6 0		706301081	$10,177.36
7/31/2017	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2017 MO 7 0		707311085	$22,980.75
6/29/2018	SANJOY K SARKER	PAYROLL	THE UNIVERSITY OF ALABAMA	THE UNIVERSITY OF ALABAMA	2018 MO 6 0		806291102	$5,674.00

(11/25)

Search | Reset

-Select Category-

Sanjoy

1/1/2017

All Amounts | All Transaction Numbers | All Agencies | All Funding Sources | 7/15/2020

All PO Numbers | All Check Numbers

THE UNIVERSITY OF ALABAMA GRADUATE SCHOOL

PLAINTIFF'S EXHIBIT

MEMORANDUM OF APPOINTMENT FOR CONTRACTS AND/OR GRANTS

(Completed by Department)

ysics and Astronomy

njoy Sarker

epartment Chair/Other Supervisor)

To: Ali Amiri (Graduate Student Name) Student CWID: 11342916

SUBJECT: Graduate Student Appointment

This memorandum confirms your appointment as a Graduate ☐ Teaching ☑ Research ☐ Administrative ☐ Student Assistant.

GENERAL TERMS OF THE APPOINTMENT (Completed by Department).

Appointment Semesters:	Fall	2016 (year)		
	Spring	(year)		
	Summer	(year)		
Starting Date:	8/16/16		Termination Date:	12/31/16
Monthly Stipend or Hourly Rate:	$2,083		Total Stipend:	$9,373.50
FTE:	.50		No. of hours per week:	20
Tuition Award (Y/N):	Y		Health Insurance (Y/N):	Y
Immediate Supervisor:	Sanjoy Sarker			
Specific Duties:	Performing research on the VO2 project.			

The Principal Investigator confirms that the specific duties set out above are within the scope of the assignment(s) as described in the terms and conditions of the contract and/or grant master document. No change or addition to these duties will be made without formal approval of the Principal Investigator or the Graduate School.

Sanjoy Sarker (MS) — Principal Investigator's Signature — Date 7/14/16

Sanjoy Sarker (MS) — Supervisor's Signature — Date 7/14/16

Russell White (MS) — Department Chair's Signature — Date 7/14/16

CERTIFICATION (Completed by Graduate Student).

1. I understand this appointment is contingent upon a receipt of acceptable results on a background report.
2. Effective December 1, 2012, I agree to self-disclose to Human Resources any post-employment criminal convictions, other than minor traffic violations, that occur after that date. I agree to notify Human Resources using the Disclosure of Criminal Convictions form found on the Human Resources website at http://hr.ua.edu/employment/Disclosure%20of%20Criminal%20Convictions%20Form.pdf.
3. If at any time after my background check has been approved by UA and I am cleared for hire, UA learns of new arrests or convictions, or any other behavior that is of concern to UA, I understand that UA can require me to re-submit to a background check as a condition of continuing employment or re-employment.

I confirm that I qualify to hold this assistantship in accordance with the criteria set out in the Graduate School Catalog, in particular that I am enrolled full time as a graduate degree student, maintain a cumulative GPA of at least 3.0 (except during the first 12 graduate semester hours of study or hourly paid appointments), and register for the minimum number of class hours commensurate with the FTE of this position[1,2]. I understand and agree that continuation of this appointment to its scheduled termination date is dependent upon my meeting the performance standards established by this department and compliance with all policies in the Graduate Catalog and general UA employment and student policies. However, the University reserves the right to terminate a GA support package, including all parts, immediately and without prior notice if, in the judgment of the Department Chair and concurrence of the Dean, such action is warranted. I also understand that graduate assistants whose appointments are terminated before the end of the academic semester or term are only eligible for reduced tuition grants[3]. I understand and agree that, if I resign or am dismissed from my assistantship or the University before the end of the academic semester or term, that I will be personally responsible for the payment of any tuition and fees that are not covered by my reduced tuition grant. To the extent my appointment is extended beyond the termination date listed above, I agree that my continued appointment is subject to the same terms and conditions noted above.

[1] See Qualifications for Graduate Assistantship at http://graduate.ua.edu/publications/dept/guide2.html

[2] See Enrollment Requirements at http://graduate.ua.edu/publications/dept/guide4.html

[3] Reduced tuition grants are computed on the following basis:

appointment ended during the 1st week	: no tuition grant
appointment ended during 2nd to 4th week	: 25% of initial grant
appointment ended from 5th week to end of the semester/term	: 50% of initial grant

A. Amiri — Student's Signature — Date 7, 15, 2016

Distribution: Graduate Assistant (1), Academic Department (1), The Graduate School (Forward the Graduate School Copy with the Personnel Action Form)

Bulletin of the American Physical Society

APS March Meeting 2016
Volume 61, Number 2
Monday–Friday, March 14–18, 2016; Baltimore, Maryland

Session T1: Poster Session III (Thursday, 1:00 pm - 4:00 pm)
1:00 PM, Thursday, March 17, 2016
Room: Exhibit Hall EF

Abstract ID: BAPS.2016.MAR.T1.349

Abstract: T1.00349 : Resistance-Strain Relation On Vanadium Dioxide Thin Films

Preview Abstract

Authors:
ali amiri
(University of Alabama, Department of Physics)

Patrick LeClair
(University of Alabama, Department of Physics)

Arun Gupta
(University of Alabama, MINT Center)

Vanadium dioxide is a strongly correlated material with a sharp metal to insulator transition at \textasciitilde 341 K. It is well known that th can change the transition temperature, but the other effects of the strain have not been drawing much attention. In this work we have stu the strain on resistance changes in the polycrystalline and epitaxial films. Polycrystalline films of VO_2 are deposited on the Pb(Mg1/3Nb2/3)0.72Ti0.28O3(001) (PMN-PT) using a SiO_2 buffer layer. The strain on film is tuned by applying a bias electric field throu substrate, and the resistance is measured using four-probe method. The epitaxial films of VO_2 are grown on TiO_2 (001) and have been substrate to transfer strain. The change in the resistance of the epitaxial films is measured to be only about 30{\%} more than polycrystal same amount of strain. We have studied the strain-induced resistance changes as a function of temperature. we have shown that the res sensitive to strain in the metallic phase.

To cite this abstract, use the following reference: http://meetings.aps.org/link/BAPS.2016.MAR.T1.349

(13/25)

Bulletin of the American Physical Society

APS March Meeting 2017
Volume 62, Number 4
Monday–Friday, March 13–17, 2017; New Orleans, Louisiana

Session T1: Poster Session III (13:00 - 16:00)
1:00 PM, Thursday, March 16, 2017
Room: Exhibit Hall J

Abstract ID: BAPS.2017.MAR.T1.349

Abstract: T1.00349 : Growth and Structural Characterization of RuO_2/VO_2 Bilayers for Tunneling Spectroscopy

Preview Abstract

Authors:
Ali Amiri
(University of Alabama - Tuscaloosa)

Josh Jones
(University of Alabama - Tuscaloosa)

Patrick LeClair
(University of Alabama - Tuscaloosa)

Arunava Gupta
(University of Alabama - Tuscaloosa)

Vanadium dioxide is one of the most studied oxides for its sharp metal to insulator transition near room temperature (340 K). Various exp theoretical approaches are still going on to make a proper and comprehensive understanding of this transition. Heterostructures of VO_2 a interest for tunneling studies. The purpose of this experiment is to study the transport properties of VO_2 far below the metal-insulator trar (MIT). This will make it possible to understand the nature of the ground state and to investigate the excitations in VO_2 strongly correlatec make these heterostructures, the epitaxial films of RuO_2 are grown on TiO_2 (100) substrates. Subsequently, an epitaxial VO_2 film is grov Both films are grown in a low pressure chemical vapor deposition system. The structural characterization by XRD confirms the epitaxial g morphology studies by atomic force microscopy show a smooth film with about 1nm of roughness. Finally, the resistance measurement v demonstrates the superposition of the transport behaviors of these two isostructural films.

To cite this abstract, use the following reference: http://meetings.aps.org/link/BAPS.2017.MAR.T1.349

(14/25)

Exhibit C

I. The FOIA/PA request.

II. The USPS Tracking

Date: 1/22/2020

National Science Foundation
FOIA Officer
2415 Eisenhower Avenue
Alexandria, Virginia 22314

Re: Freedom of Information Act Request

Dear FOIA Officer,

This is a request under Freedom of Information Act, and Privacy Act.

Date Range of the Request: January 1, 2013 to Present.

Description of Request: I request that a copy of the following documents be provided to me.

I. **Any and all documents related to the research award # 1508680 entitled: "Transport and Carrier Dynamics Near the Metal-Insulator Transition in VO2".**
I should mention that I have participated in this research since the start of the research.

II. **Any and all documents related to me, Ali Amiri.**
This request should include any and all of the reports, recordings, and database entries and updates, etc. Also, it should include any and all of other information related to me, such as any inquiry from any organization, institutes, agencies, etc.

Prompt answer is helpful:
In a regular request, as provided in the Freedom of Information Act, your response should be provided no later than (20) business days. According to 5 U.S.C. 552 (a) (6) (A) (I). If you can provide information sooner, I would greatly appreciate that.

Fees:
I am willing to pay applicable fees.
This is a noncommercial request. The information sought will not be used for commercial purposes.

Applicant information:

Name: Ali Amiri
Date of Birth: [redacted]
Social Security: [redacted]

(16/25)

Declaration:

I certify, under penalty of perjury, and under the laws of the United States of America, that the information in this request is true and correct.

Please contact me at:

Ali Amiri
A 201142617
LaSalle ICE Detention Center
P.O. Box 560
Trout, LA 71371

Sincerely,
Ali Amiri

(17/25)

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Tracking Number: 9114999944314755311890

Remove ×

Your item was delivered to the front desk, reception area, or mail room at 11:52 am on January 29, 2020 in ALEXANDRIA, VA 22314.

Delivered

January 29, 2020 at 11:52 am
Delivered, Front Desk/Reception/Mail Room
ALEXANDRIA, VA 22314

Get Updates ∨

Feedback

Text & Email Updates ∨

Tracking History ∧

January 29, 2020, 11:52 am
Delivered, Front Desk/Reception/Mail Room
ALEXANDRIA, VA 22314
Your item was delivered to the front desk, reception area, or mail room at 11:52 am on January 29, 2020 in ALEXANDRIA, VA 22314.

January 29, 2020, 7:10 am
Out for Delivery
ALEXANDRIA, VA 22314

(18/25)

January 29, 2020, 6:18 am
Arrived at Post Office
ALEXANDRIA, VA 22314

January 29, 2020, 4:26 am
Departed USPS Regional Facility
MERRIFIELD VA DISTRIBUTION CENTER

January 29, 2020, 1:57 am
Arrived at USPS Regional Destination Facility
MERRIFIELD VA DISTRIBUTION CENTER

January 28, 2020, 1:59 am
Departed USPS Regional Facility
SHREVEPORT LA DISTRIBUTION CENTER

January 28, 2020, 12:17 am
Arrived at USPS Regional Origin Facility
SHREVEPORT LA DISTRIBUTION CENTER

January 27, 2020, 2:05 pm
Departed Post Office
TROUT, LA 71371

January 27, 2020, 11:23 am
USPS in possession of item
TROUT, LA 71371

Product Information

See Less

Can't find what you're looking for? (19/25)

Exhibit D

Date: 3/17/2020

Ali Amiri (A201142617)
499 Old Columbia Road
Harrisonburg, LA 71340

National Science Foundation
FOIA Officer
2415 Eisenhower Avenue
Alexandria, Virginia 22314

Re: Freedom of Information Act Request

Dear FOIA Officer,

I sent a Freedom of Information Act/ Privacy Act request to you in January, using priority mail service. The tracking number was: 9114 9999 4431 4755 3118 90 which shows it was delivered to your office on January 29, 2020 at 11:52 am.

Also, I had a change of address dated February 7, 2020.

As of today, I did not receive any information from your office. Please provide me with some information on the status of this FOIA/PA request.

Since I did not receive the FOIA Request Number assigned to this request, I am providing my information again, so you can find the request correctly.

Applicant information:

Name: Ali Amiri
Date of Birth: [redacted]
Social Security: [redacted]

Thank you,
Ali Amiri

(21/25)

Exhibit E

I. Prelitigation letter

II. The USPS Tracking

Ali Amiri (A201142617)
499 Old Columbia Road
Harrisonburg, LA 71340

6/5/2020

The National Science Foundation
Office of Director
2415 Eisenhower Avenue,
Alexandria, Virginia 22314, USA

Re: Prelitigation letter for a FOIA Request

Dear Kelvin K. Droegemeier,

For the past few months, I have been trying to get a response for a FOIA request I filed on January 22, 2020. I sent several letters to NSF FOIA Officer, but I did not get any response.

You know that pursuant to FOIA law 5 USC§ 552(a) (6) (A) (i), you had 20 days to answer the request. Now, it is more than 135 days past, and the only remaining option is to file a FOIA lawsuit and enforce the rule of law.

I have attached the three written documents that I sent in the past 5 months to your FOIA Officer.

Please notice that my patience shows that I have no desire to file a lawsuit. But at the same time, if I have to do so, I will follow such an action until I find the proper answer.

You have awarded $503,583.00 to my research in 2015 (award # 1508680), and you are still paying the Fund, while the Principal Investigator Sanjoy Sarker and I did not receive the fund for the past three years. What is the reason that you are hiding the information regarding this research? And why you are not producing the FOIA information that by law you are required to produce.

If I don't get a response by June 19, 2020, I will proceed to file a FOIA lawsuit to get the information requested.

Sincerely,
Ali Amiri

Attached are:

I. Initial FOIA Request (January 2020)
II. Notice of Change of Address (February 2020)
III. A Follow up letter (March 2020)

ALERT: DUE TO LIMITED TRANSPORTATION AVAILABILITY AS A RESULT OF NATIO...

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Tracking Number: 70191640000135445154

Remove ×

Your item was delivered to the front desk, reception area, or mail room at 3:20 pm on June 8, 2020 in ALEXANDRIA, VA 22314.

Feedback

Delivered

June 8, 2020 at 3:20 pm
Delivered, Front Desk/Reception/Mail Room
ALEXANDRIA, VA 22314

Get Updates ∨

Text & Email Updates ∨

Tracking History ∧

June 8, 2020, 3:20 pm
Delivered, Front Desk/Reception/Mail Room
ALEXANDRIA, VA 22314
Your item was delivered to the front desk, reception area, or mail room at 3:20 pm on June 8, 2020 in ALEXANDRIA, VA 22314.

(24/25)

June 8, 2020, 8:18 am
Out for Delivery
ALEXANDRIA, VA 22314

June 8, 2020, 8:07 am
Arrived at Unit
ALEXANDRIA, VA 22314

June 7, 2020, 12:53 pm
Departed USPS Regional Facility
MERRIFIELD VA DISTRIBUTION CENTER

June 7, 2020, 10:30 am
Arrived at USPS Regional Facility
MERRIFIELD VA DISTRIBUTION CENTER

June 6, 2020, 8:46 am
Departed USPS Regional Facility
SHREVEPORT LA DISTRIBUTION CENTER

June 5, 2020, 11:23 pm
Arrived at USPS Regional Facility
SHREVEPORT LA DISTRIBUTION CENTER

Feedback

Product Information

Postal Product:

Features:
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See Less

(25/25)

Certificate of Service

Plaintiff certifies that a true copy of the foregoing was served to the Defendant NSF using USPS certified mail # 7019 1640 0001 3544 5215 at the address listed below:

The National Science Foundation
2415 Eisenhower Avenue,
Alexandria, Virginia 22314

Ali Amiri 7/16/2020
Ali Amiri