

FILE NO EMR/2017/001437

**SCIENCE & ENGINEERING RESEARCH BOARD(SERB)**

(a statutory body of the Department of Science &amp; Technology, government of India)

5 & 5A, Lower Ground Floor  
Vasant Square Mall  
Plot No. A, Community Centre  
Sector-B, Pocket-5, Vasant Kunj  
New Delhi-110070

Dated: 19-Mar-2018

**ORDER**

Subject: Financial Sanction of the research project titled "**Understanding dynamics of magnetostructural coupling in Manganese intermetallics exhibiting first order transition**" under the guidance of Prof. Kaustubh R Priolkar, Physics, Goa University, Taleigao, North goa, Goa-403208 - Release of 1st grant.

Sanction of **Science and Engineering Research Board (SERB)** is hereby accorded to the above mentioned project at a total cost of **Rs. 4116066/- (Rs. Forty One Lakh Sixteen Thousand and Sixty Six Only)** with break-up of **Rs. 2168679/- under Capital (Non-recurring) head** and **Rs.1947387/- under General (Recurring) head** for a duration of 36 months. The items of expenditure for which the total allocation of **Rs. 4116066/-** has been approved are given below:

The following budget may be considered for **Goa University, Taleigao**

S. No	Head	Total (in Rs.)
<b>A</b>	<b>Non-recurring</b>	
1	Equipment -> Temperature Controller -> Closed Cycle Refrigerator	2168679
<b>A'</b>	<b>Total (Non-Recurring)</b>	<b>2168679</b>
<b>B</b>	<b>Recurring Items</b>	
1	Recurring - I : (Manpower) Recurring - II : ( Consumables, Travel, Contingencies)	1123200 450000
2	Recurring - III : (Overhead Charges)	374187
<b>B'</b>	<b>Total (Recurring)</b>	<b>1947387</b>
<b>C</b>	<b>Total cost of the project (A' + B')</b>	<b>4116066</b>

- Sanction of the **SERB** is also accorded to the payment of
  - Rs. 2168679/-** (Rupees Twenty One Lakh Sixty Eight Thousand Six Hundred and Seventy Nine only) under 'Grants for creation of capital assets' and **Rs. 300000/-** (Rupees Three Lakh only) under 'Grants-in-aid General' to **The Registrar, Goa University, Taleigao** being the first installment of the grant for the year 2017-2018 for implementation of the said research project.
- The expenditure involved is debitable to **Fund for Science & Engineering Research (FSER)**  
**This release is being made under Core Research Grant. (PAC Physical Sciences)**
- The Sanction has been issued to Goa University, Taleigao with the approval of the competent authority under delegated powers on **19 March, 2018** and vide Diary No. **SERB/F/10923/2017-2018** dated **19 March, 2018**
- Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at website ([www.serb.gov.in](http://www.serb.gov.in)).
- Overhead expenses are meant for the host Institute towards the cost for providing infrastructural facilities and general administrative support etc. including benefits to the staff employed in the project.
- While providing operational flexibility among various subheads under head Recurring-II, it should be ensured that not more than Rs. 1.5 lakh each should be spent for travel and contingency.
- As per rule 211 of GFR, the accounts of project shall be open to inspection by sanctioning authority/audit whenever the institute is called upon to do so.
- The sanctioned equipment would be procured as per GFR and its disposal of the same would be done with prior approval of SERB

10. The release amount of **Rs. 2468679/-** (Rupees Twenty Four Lakh Sixty Eight Thousand Six Hundred and Seventy Nine only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

Account Name	Goa University
Account Number	10664493609
Bank Name & Branch	State Bank of India State Bank of India, Goa University Branch, Goa University Complex, Taleigao Plateau, Goa 403206
IFSC/RTGS Code	SBIN0004311

Dated: 03-Jul-2018

**ORDER**

Subject: Research project entitled "**Understanding dynamics of magnetostructural coupling in Manganese intermetallics exhibiting first order transition**" under the guidance of Prof. Kaustubh R Priolkar, Physics, Goa University, Taleigao, North goa, Goa-403208.

1. This is in continuation of SERB's sanction order No. "EMR/2017/001437" dated "19 March, 2018" of **Science and Engineering Research Board (SERB)**.
2. Sanction of the competent authority is hereby accorded to the payment of a sum of **Rs. 400000/-** (Rupees Four Lakh only) under 'Grants-in-aid General' to **The Registrar, Goa University, Taleigao** being the 2nd grant for the financial year 2018-2019 for implementation of the above said project.
3. Sanction of the competent authority is also accorded to the carry forward of unspent balance of **Rs. 2393679/-** (Rupees Twenty Three Lakh Ninety Three Thousand Six Hundred and Seventy Nine only) (Recurring Rs. 225000 and Non-Recurring Rs. 2168679) to Goa University, Taleigao from FY 2017-2018 to FY 2018-2019 for the same purpose for which it was sanctioned
4. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at the website ([www.serb.gov.in](http://www.serb.gov.in)).
5. It is certified that provision of GFR 212 relating to Utilization Certificates (Ucs) for the funds released under the grant have been satisfied and the UC/s is/are enclosed herewith.
6. The expenditure involved is debitable to **Fund for Science & Engineering Research (FSER)** **This release is being made under Core Research Grant. (PAC Physical Sciences) (GEN)**
7. The Sanction has been issued to Goa University, Taleigao with the approval of the competent authority under delegated powers on **13 June, 2018** and vide Diary No. **SERB/F/2843/2018-2019** dated **28 June, 2018**
8. The release amount of **Rs. 400000/-** (Rupees Four Lakh only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

Account Name	Goa University
Account Number	10664493609
Bank Name & Branch	State Bank of India State Bank of India, Goa University Branch, Goa University Complex, Taleigao Plateau, Goa 403206
IFSC/RTGS Code	SBIN0004311
Email id of A/C Holder	fo@unigoa.ac.in
Email id of PI	krpriolkar@gmail.com

9. The institute will maintain separate audited accounts for the project. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.

10. As per rule 211 of GFR the accounts of Grantee Institution shall be open to inspection by the sanctioning authority / audit whenever the institute is called upon to do so.

11. The institute will furnish to the SERB, Utilization certificate(separate for Recurring & Non-Recurring) and an audited statement of accounts pertaining to the grant immediately after the end of each financial year.

FILE NO. EMR/2017/001437  
**SCIENCE & ENGINEERING RESEARCH BOARD(SERB)**  
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5 & 5A, Lower Ground Floor  
Vasant Square Mall  
Plot No. A, Community Centre  
Sector-B, Pocket-5, Vasant Kunj  
New Delhi-110070

Dated: 19-Sep-2019

**ORDER**

Subject: Research project entitled "**Understanding dynamics of magnetostructural coupling in Manganese intermetallics exhibiting first order transition**" under the guidance of Prof. Kaustubh R Priolkar, Physics, Goa University, Taleigao, North goa, Goa-403208.

1. This is in continuation of SERB's sanction order No. "EMR/2017/001437" dated "19 March, 2018" of **Science and Engineering Research Board (SERB)**.
2. Sanction of the competent authority is hereby accorded to the payment of a sum of **Rs. 650000/-** (Rupees Six Lakh Fifty Thousand only) under 'Grants-in-aid General' to **The Registrar, Goa University, Taleigao** being the 3rd grant for the financial year 2019-2020 for implementation of the above said project.
3. Sanction of the competent authority is also accorded to the carry forward of unspent balance of **Rs. 27912/-** (Rupees Twenty Seven Thousand Nine Hundred and Twelve only) (Recurring Rs. 27912 and Non-Recurring Rs. 0) to Goa University, Taleigao from FY 2018-2019 to FY 2019-2020 for the same purpose for which it was sanctioned.
4. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at the website ([www.serb.gov.in](http://www.serb.gov.in)).
5. It is certified that provision of GFR 212 relating to Utilization Certificates (Ucs) for the funds released under the grant have been satisfied and the UC/s is/are enclosed herewith.
6. The expenditure involved is debit to **Fund for Science & Engineering Research (FSER)** **This release is being made under Core Research Grant. (PAC Physics-1 (Condensed Matter Physics and Material Sciences))**
7. The Sanction has been issued to Goa University, Taleigao with the approval of the competent authority under delegated powers on **17 September, 2019** and vide Diary No. **SERB/F/4866/2019-2020** dated **18 September, 2019**
8. The release amount of **Rs. 650000/-** (Rupees Six Lakh Fifty Thousand only) (Recurring Rs. 650000 and Non-Recurring Rs. 0) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

PFMS Unique Code	UNIGOA
Account Name	Goa University
Account Number	10664493609
Bank Name & Branch	State Bank of India State Bank of India, Goa University Branch, Goa University Complex, Taleigao Plateau, Goa 403206
IFSC/RTGS Code	SBIN0004311
Email id of A/C Holder	fo@unigoa.ac.in
Email id of PI	krpriolkar@gmail.com

9. The institute will maintain separate audited accounts for the project. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.

10. As per rule 211 of GFR the accounts of Grantee Institution shall be open to inspection by the sanctioning authority / audit whenever the institute is called upon to do so.



FILE NO. EMR/2017/001437

**SCIENCE & ENGINEERING RESEARCH BOARD (SERB)**  
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5 & 5A, Lower Ground Floor  
Vasant Square Mall  
Plot No. A, Community Centre  
Sector B, Pocket 5, Vasant Kunj  
New Delhi-110070

Dated 04 Jun-2020

**ORDER**

Subject Research project entitled "**Understanding dynamics of magnetostructural coupling in Manganese intermetallics exhibiting first order transition**" under the guidance of Prof. Kaustubh R Priolkar, Physics, Goa University, Taleigao, North Goa, Goa 403208

- 1 This is in continuation of SERB's sanction order No. "EMR/2017/001437" dated "19 March, 2018" of Science and Engineering Research Board (SERB)
  - 2 Sanction of the competent authority is hereby accorded to the payment of a sum of **Rs. 350000/-** (Rupees Three Lakh Fifty Thousand only) under 'Grants in aid General' to **The Registrar, Goa University, Taleigao** being the 4th grant for the financial year 2020-2021 for implementation of the above said project.
  - 3 Sanction of the competent authority is also accorded to the carry forward of unspent balance of **Rs. 173923/-** (Rupees One Lakh Seventy Three Thousand Nine Hundred and Twenty Three only) (Recurring Rs. 173923 and Non-Recurring Rs. 0) to Goa University, Taleigao from FY 2019-2020 to FY 2020-2021 for the same purpose for which it was sanctioned
  - 4 Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at the website ([www.serb.gov.in](http://www.serb.gov.in))
  - 5 It is certified that provision of GFR 212 relating to Utilization Certificates (UCs) for the funds released under the grant have been satisfied and the UC/s is/are enclosed herewith.
  - 6 The expenditure involved is debitable to **Fund for Science & Engineering Research (FSER)**  
**This release is being made under Core Research Grant. (PAC Physics-1 (Condensed Matter Physics and Material Sciences))**
  - 7 The Sanction has been issued to Goa University, Taleigao with the approval of the competent authority under delegated powers on **31 May, 2020** and vide Diary No. **SERB/F/243/2020-2021** dated **01 June, 2020**
  - 8 The release amount of **Rs. 350000/-** (Rupees Three Lakh Fifty Thousand only) (Recurring Rs. 350000 and Non-Recurring Rs. 0) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:
- |                               |   |
|-------------------------------|---|
| <b>PFMS Unique Code</b>       | <b>UNIGOA</b>   |
| <b>Account Name</b>           | <b>Goa University</b>   |
| <b>Account Number</b>         | <b>10664493609</b>  |
| <b>Bank Name &amp; Branch</b> | <b>State Bank of India State Bank of India, Goa University Branch, Goa University Complex, Taleigao Plateau, Goa 403206</b> |
| <b>IFSC/RTGS Code</b>         | <b>SBIN0004311</b>  |
| <b>Email id of A/C Holder</b> | <b>fo@unigoa.ac.in</b>  |
| <b>Email id of PI</b>         | <b>krpriolkar@gmail.com</b>   |
- 9 The institute will maintain separate audited accounts for the project. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.
  - 10 As per rule 211 of GFR the accounts of Grantee Institution shall be open to inspection by the sanctioning authority / audit whenever the institute is called upon to do so.
  - 11 The institute will furnish to the SERB, Utilization certificate (separate for Recurring & Non-Recurring) and an audited statement of accounts pertaining to the grant immediately after the end of each financial year
  - 12 After completion of the project unspent balance if any should be returned as Demand Draft drawn in favour of "Fund for Science and Engineering Research" payable at New Delhi
  - 13 The organization/institute/university should ensure that the technical support/financial assistance provided to them by the Science & Engineering Research Board, a statutory body of the Department of Science & Technology (DST), Government of India should invariably be highlighted/ acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report
  - 14 In addition, the investigator/host institute must also acknowledge the support provided to them in all publications, patents and any other output emanating out of the project/program funded by the Science &

**Annexure-II****REQUEST FOR ANNUAL INSTALMENT WITH UP-TO-DATE STATEMENT OF EXPENDITURE**

1. SERB Sanction Order No and date: **EMR/2017/001437 dated 19/03/2018**

2. Name of the PI: **Prof. Kaustubh R. Priolkar**

3. Total Project Cost: **Rs. 41,16,066/-**

4. Revised Project Cost: (if applicable): **NA**

5. Date of Commencement: **21/03/2018**

6. Statement of Expenditure:

(Month wise expenditure incurred during current financial year)

Month & Year	Expenses incurred/ Committed
April, 2019	
May, 2019	
June, 2019	55316
July, 2019	95393
August, 2019	36531
September, 2019	58740
October, 2019	55261
November, 2019	32237
December, 2019	36036
January, 2020	33666
February, 2020	78698
March, 2020	26362
Total	Rs. 508240/-

7. Grant received in each year:

a. 1<sup>st</sup> Year: **Rs. 24,68,679/-**

b. 2<sup>nd</sup> Year: **Rs. 4,00,000/-**

c. 3<sup>rd</sup> Year: **Rs. 6,50,000/-**

d. 4<sup>th</sup> Year: **Rs. 3,50,000/-**

e. Interest, if any:

f. Total (a + b + c + d + e): **Rs. 38,68,679/-**

# Statement of Expenditure

Sr No.	Sanctioned Heads	Total Funds Allocated (Actual grant received)	Expenditure Incurred				Total Expenditure till 20/03/2021	Balance as on 20/03/2021	Requirement of Funds upto 31st March next year	Remarks (if any)
			1 <sup>st</sup> Year (21/03/2018 to 31st March 2018)	2 <sup>nd</sup> Year (1st April to 31st March 2019)	3 <sup>rd</sup> Year (1st April to 31st March 2020)	4 <sup>th</sup> Year (1st April to 31st March 2021)				
(I)	(II)	(III)	(IV)	(V)	(VI)		(VII = IV + V + VI)	(VIII = III - VII)		
1.	Manpower costs	Rs. 858480	---	233520	286440	329280	849240	9240	NIL	
2.	Consumables	Rs. 211160	---	49505	56252	102646	208403	2757	NIL	
3.	Travel	Rs. 85192	---	49650	25542	7557	82749	2443	NIL	
4.	Contingencies	Rs. 170981	---	49413	51568	68757	169738	1243	NIL	
5.	Others, if any	---	---	---	---	---	---	---	---	
6.	Equipment	Rs. 2168679	---	2168679	---	---	2168679	NIL	NIL	
7.	Overhead expenses	Rs. 374187	75000	215000	84187	---	374187	NIL	NIL	
8.	Total	Rs. 3868679	75000	2765767	503989	508240	3852996	15683	NIL	

Name and Signature of Principal Investigator:

Signature of Competent financial authority:

(with seal)

Date:

DOS - Date of Start of project

Note:

- Expenditure under the sanctioned heads, at any point of time, should not exceed funds allocated under that head, without prior approval of SERB i.e. Figures in Column (VIII) should not exceed corresponding figures in Column (III)
- Utilization Certificate (Annexure III) for each financial year ending 31st March has to be enclosed along with request for carry-forward permission to the next financial year.

*Ram...*  
Finance Officer  
Goa University  
Taleigao Plateau,  
Goa - 403 206



Consolidated Statement of Accounts for the period 1st April 2018 to 31st May 2019

Title of Research Scheme: Effect of Site Occupancy Disorder on Martensitic transformation in Mn rich magnetic shape memory alloys  
 Name of the Project Investigator: Dr. K. R. Priolkar  
 Date of Commencement: June 01, 2016  
 Date of Termination: May 31, 2019

Name of the Project Investigator: Dr. K. R. Priolkar		Date of Commencement: June 01, 2016		Date of Termination: May 31, 2019										
	Opening Balance		Grants Received during the year				Expenditure during the year							
Period Ending 31 <sup>st</sup> March	Fellowship	Contingency	Equipment	Total	Cheque No. & Date and Amount	Fellowship	Contingency	Equipment	Total	Balance				
April 16 to March 17	NIL	NIL	NIL	0	Electronic Fund transfer - June 2016	Nil	25000	1000000	1025000	Nil	23164.00	771684.00	794848.00	230152.00
April 17 to March 18	Nil	1836	228316	230152		Nil	Nil	Nil	Nil	Nil	Nil	194451.00	194451.00	35701.00
April 18 to March 19	Nil	1836	33865	35701	-----	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	35701.00
April 19 to May 19	Nil	1836	33865	35701	-----	Nil	Nil	Nil	Nil	Nil	20804.00	20804.00	20804.00	14897.00

Signature of PI 22/8/19  
 With stamp

Signature of Finance Officer  
 With stamp  
 Finance Officer

Goa University  
 Taleigao Plateau

Signature of Registrar  
 With stamp  
 Registrar  
 Goa University  
 Taleigao Plateau



UC for Recurring Grants

**UTILISATION CERTIFICATE**  
**FOR THE FINANCIAL YEAR-(ENDING 31 ST MARCH) Year- 2020-2021**  
 (To be given separately for each financial year ending on 31<sup>st</sup> March)

U.C. Pertains to

First Release	Second Release	Third Release	√ Fourth Release	Final Release
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Is the UC provisional

: YES/NO

1. Title of the Project/ Scheme : Understanding dynamics of  
magnetostructural coupling in Manganese intermetallics  
exhibiting first order transition
2. Name of Principal Investigator : Prof. Kaustubh R Priolkar
3. Implementing Institution : Goa University
4. SERB sanction order No & date : EMR/2017/001437, 19 March 2018
5. Amount brought forward from the previous  
financial year quoting SERB letter number  
and date in which the authority to forward the  
said amount was given : Amount: Rs. 173923/-  
: Letter/Order No: EMR/2017/001437  
: Date: 04 June 2020
- 6.a. Amount received during the financial year : Amount Rs. 3,50,000/-  
(Please give SERB Letter/order no and : Letter/Order No. EMR/2017/001437  
date for the amount) : Date 04/06/2020
- 6.b. Interest earned, if any : NIL
7. Total Amount that was available : Rs. 5,23,923/-  
For expenditure Rs. (Excluding  
Commitments) incurred during  
the financial year (upto 31<sup>st</sup> March)
8. Actual Expenditure (excluding commitments) : Rs. 5,08,240/-  
Incurred during the financial year (upto 31<sup>st</sup> Mar)
9. Balance amount available at the end of the : Rs. 15,683/-  
Financial year (8-9): OR/Negative balance  
(If expenditure incurred is more than the funds released)
10. Unspent Balance, If any, refunded to SERB : Rs. 15,683/-  
(Give details of Cheque/DD No. etc.)
11. Amount to be carried forward to the next : NIL  
Financial year (If any)



### UTILIZATION CERTIFICATE

Certified that out of Rs. 3,50,000/- of Recurring grants-in-aid sanctioned during the year 2020-2021 in favour of **The Registrar, Goa University** under SERB letter/order No **EMR/2017/001437** dated 04/06/2019 and Rs 1,73,923/- on account of unspent balance of the previous year, a sum of Rs 5,08,240/- has been utilized for the purpose for which it was sanctioned and that the balance of Rs 15,683/- remaining unutilized at the end of the year has been refunded to SERB (vide Cheque/DD No. \_\_\_\_\_ dated \_\_\_\_\_).

Certified that we have satisfied ourselves that the conditions on which the grants-in-aid was sanctioned have been fulfilled/are being fulfilled and that we have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercised

- 1.
- 2.



Signature of PI

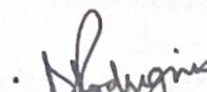
Date 12/7/2021.



Signature of Registrar/Account officer

Date

Finance Officer  
Goa University  
Taleigao Plateau,  
Goa - 403 206  
Guidelines for preparation of U.C.



Signature of Head of Institution

Date

Registrar  
Goa University  
Taleigao Plateau,  
Goa - 403 206

1. U.C. should be only for the grants released by the SERB. Please do not account for Security deposits/other matching grants/account opening charges and miscellaneous items.
2. SERB sanction No. and Dt should be accurately shown in the U.C.
3. Even if the grants is utilized in the financial year in which the grants was released by SERB a NIL U.C. needs to be forwarded to SERB along with a request for carrying forward the grant to the next financial year. Such grants which are carried forwarded must be shown in the subsequent U.C. as carried forward grant and not amount received in the subsequent year (ref S1 No.5 on pre-page)

Science and Engineering Research Board

UC has been accepted by

Signature \_\_\_\_\_

Name of the SERB Officer \_\_\_\_\_

Designation \_\_\_\_\_