



**C-MMACS**

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## **CSIR Centre for Mathematical Modelling and Computer Simulation**

### **C-MMACS' RESEARCH PERFORMANCE 1992-2005**

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## **C-MMACS' Research Performance 1992-2005**

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Two of the measures frequently used to assess research performance are to estimate the number of publications appearing in Science Citation Index (SCI) Journals, as these are considered to be the best journals, and to estimate the total citations received by papers published.

In the main body of the report, the list of publications appearing in SCI journals during 1992-2005 is presented. In the last 14 years (1992-2005), 125 SCI publications were registered (according to the Web of Science). The scientific productivity works out to an average of 0.67 SCI publications/scientist/year in the fourteen year period from 1992-2005. This is better than the CSIR average for 2004 (= 0.57). This figure of 0.67 for C-MMACS indicates that C-MMACS is one of the top fifteen labs of the CSIR if this index is used. Also, in recent years, C-MMACS is able to average about 11 SCI items a year.

The citations received by papers published by C-MMACS since 1992 are used as an indicator of the quality of C-MMACS' scientific output. The citation record has not been very good. Nearly half of our SCI papers remain uncited, i.e. 56 papers have not received any citation. The few papers which have been most highly cited have a foreign co-author and/or an NIO connection and this could explain its higher impact. A total of 422 citations for 125 papers over the last 14 years is only reasonably good going. This again would probably be the performance of an average lab in the CSIR.

## C-MMACS' SCI publications 1992-2005

The recent assignment of one of us abroad (IAP) enabled a systematic search using the latest scientometric databases to bring up to date, the list of Science Citation Index (SCI) publications of C-MMACS registered in SCI databases. This was done for the last decade and a half (1992-2005).

### SCI Papers:

An assessment we have done of our scientific contributions as indicated by the number of SCI publications shows that in the last 14 years (1992-2005), 125 SCI publications were registered (according to the Web of Science). During this period, the total scientific strength can be computed as 187 scientist-years (11 group IV scientists in 1992 growing to 18 in 2005). Thus the scientific productivity works out to an average of 0.67 SCI publications/scientist/year in the fourteen year period from 1992-2005. A word of caution here is that this list will include all items like scientific correspondence, book reviews, etc. and is not restricted only to scientific papers. This is better than the CSIR average for 2004 (= 0.57).

The year-wise summary is as follows:

2005	-	14
2004	-	15
2003	-	8
2002	-	10
2001	-	9
2000	-	8
1999	-	11
1998	-	7
1997	-	8
1996	-	13
1995	-	5
1994	-	6
1993	-	6
1992	-	5

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TOTAL-125

It would seem that in recent years, we are able to average about 11 SCI items a year.

## SCI Citations :

<u>Citations</u>	<u>No of papers</u>
41	1
36	1
35	1
23	1
21	1
20	1
17	1
16	1
12	1
10	4
9	3
8	1
7	2
5	3
4	8
3	10
2	6
1	23
0	56
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422	125

A total of 422 citations for 125 papers over the last 14 years is only reasonably good going. This again would probably be the performance of an average lab in the CSIR.

The full list is carried in the following pages.

1. Sen, S; Mohan, TRK; Visco, DP; Swaminathan, S; Sokolow, A; Avalos, E; Nakagawa, M  
Using mechanical energy as a probe for the detection and imaging of shallow buried inclusions in dry granular beds  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, 19 (18): 2951-2973 JUL 20 2005  
**Times Cited: 0**
2. Kumar, N; Parvez, IA; Virk, HS  
Estimation of coda wave attenuation for NW Himalayan region using local earthquakes  
PHYSICS OF THE EARTH AND PLANETARY INTERIORS, 151 (3-4): 243-258 AUG 15 2005  
**Times Cited: 0**
3. Gnanadesikan, A; Slater, RD; Swathi, PS; Vallis, GK  
The energetics of ocean heat transport  
JOURNAL OF CLIMATE, 18 (14): 2604-2616 JUL 15 2005  
**Times Cited: 0**
4. Jade, S; Ananda, MB; Kumar, PD; Banerjee, S  
Co-seismic and post-seismic displacements in Andaman and Nicobar Islands from GPS measurements  
CURRENT SCIENCE, 88 (12): 1980-1984 JUN 25 2005  
**Times Cited: 0**
5. Mukherjee, S; Jafarali, P; Prathap, G  
A variational basis for error analysis in finite element elastodynamic problems  
JOURNAL OF SOUND AND VIBRATION, 285 (3): 615-635 JUL 22 2005  
**Times Cited: 0**
6. Ramesh, KV; Krishnan, R  
Coupling of mixed layer processes and thermocline variations in the Arabian Sea  
JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS, 110 (C5): Art. No. C05005 MAY 7 2005  
**Times Cited: 0**
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Non-linear beam vibration problems and simplifications in finite element models  
COMPUTATIONAL MECHANICS, 35 (5): 352-360 APR 2005  
**Times Cited: 0**
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Estimates of precipitable water vapour from GPS data over the Indian subcontinent  
JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS, 67 (6): 623-635 APR 2005  
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Seasonal cycle and intraseasonal oscillations in the interannual variability over the monsoon region  
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10. Kumar, A  
Noise removal in images using isotropic finite-differences  
CURRENT SCIENCE, 88 (5): 700-701 MAR 10 2005  
**Times Cited: 0**
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The quasi-equilibrium state: A tale of certain soundless systems  
JOURNAL OF THE KOREAN PHYSICAL SOCIETY, 46 (3): 577-579 MAR 2005  
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The quasi-equilibrium phase of nonlinear chains  
PRAMANA-JOURNAL OF PHYSICS, 64 (3): 423-431 MAR 2005  
**Times Cited: 1**
13. Prathap, G  
Who's afraid of research assessment?  
CURRENT SCIENCE, 88 (1): 14-17 JAN 10 2005  
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Crustal structure and earthquake focal depths beneath northeastern India and southern Tibet  
GEOPHYSICAL JOURNAL INTERNATIONAL, 160 (1): 227-248 JAN 2005  
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15. Goswami, P; Patra, GK  
Characteristic scale of convective organization and monsoon intensity  
GEOPHYSICAL RESEARCH LETTERS, 31 (24): Art. No. L24109 DEC 30 2004  
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Isotropic finite-differences  
JOURNAL OF COMPUTATIONAL PHYSICS, 201 (1): 109-118 NOV 20 2004  
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17. Jade, S; Bhatt, BC; Yang, Z; Bendick, R; Gaur, VK; Molnar, P; Anand, MB; Kumar, D  
GPS measurements from the Ladakh Himalaya, India: Preliminary tests of plate-like or continuous deformation in Tibet  
GEOLOGICAL SOCIETY OF AMERICA BULLETIN, 116 (11-12): 1385-1391 NOV-DEC 2004  
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18. Raja, S; Sinha, PK; Prathap, G; Dwarakanathan, D  
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Sophistication in distributed denial-of-service attacks on the Internet  
CURRENT SCIENCE, 87 (7): 885-888 OCT 10 2004  
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Oceanic ventilation and biogeochemical cycling: Understanding the physical mechanisms that produce realistic distributions of tracers and productivity  
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Thermally induced vibration control of composite plates and shells with piezoelectric active damping  
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Bending behavior of hybrid-actuated piezoelectric sandwich beams  
JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES, 15 (8): 611-619 AUG 2004  
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JOURNAL OF STRUCTURAL GEOLOGY, 26 (3): 595-600 2004  
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