Section I: GENERAL	Information
1.1 Name & Address of the Institution:	Indian Institute of Space Science and Technology, Valiamala, Thiruvanathapuram, Kerala, India
1.2 Year of Establishment:	2007
1.3 Current Academic Activities at the Institution (Numbers): • Faculties/ Schools: • Departments/ Centres: • Programmes/ Courses offered: • Permanent Faculty Members: • Permanent Support Staff: • Students:	 N/A 7 3 UG , 6 PG and Ph.D 78 39 677
1.4 Three major features in the institutional Context (As perceived by the Peer Team):	• It is established to cater exclusively to the needs of ISRO laboratories. • It receives substantial funding and support from the DoS and its Laboratories. • The admission in UG programs is fully linked to the placement in ISRO Laboratories.
1.5 Dates of visit of the Peer Team (A detailed visit schedule may be included as Annexure):	15,16,17th April 2013

1.6 Composition of the Peer Team which undertook the on- site visit:

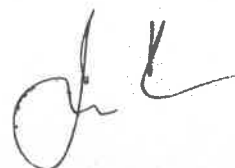|	
Chairman	Prof Anil K. Bhatnagar, Former Vice Chancellor, Pondicherry University, NASI Senior Scientist, Platinum Jubilee fellow. University of Hyderabad.
Member	Dr. Sandip Kumar Chakrabarti, Senior Professor & Head of Astrophysics & Cosmology, S.N. Bose National Centre for Basic Sciences and Head, Indian Centre for space Physics, Kolkota.
Member	Dr. Shyam Lal, J.C. Bose National Fellow, Senior Professor and Chairman, Academic Committee, PRL, Ahmedabad.
Member	Prof. G. Srikantha Sharma, Deputy General Manager and Senior Faculty, Hindustan Aeronautics Limited Management Academy , Bangalore
NAAC Officer	Dr. Sujata P Shanbhag, Assistant Advisor, National Assessment & Accreditation Council (NAAC), Bangalore

Section II: CRITERION WISE ANALYSIS	Observations (Strengths and/or Weaknesses) on Key-Aspects *(Please limit to three major ones for each and use telegraphic language (It is not necessary to indicate all the three bullets each time; write only the relevant ones)*
2.1 Curricular Aspects:	
2.1.1 Curricular Design & Development:	- Undergraduate Curricula are well designed and are exhaustive for the programs offered. - Laboratory courses and facilities are well developed. 6 M. Tech courses are offered. - Limited number of academic streams are offered
2.1.2 Academic Flexibility:	3 UG, 6 PG and Ph.D. programs are offered. - UG students are permitted to change their major after one year. - On an average only four electives per department in UG programs are offered. - Choice-based credit system is not offered.
2.1.3 Feedback on Curriculum	- Informal feedback is obtained from various stakeholders. - Formal mechanism is yet to be implemented for analyzing the feedback.
2.1.4. Curriculum Update	- Update of courses has been done only in a few programs. - No clear evidence of incorporating latest developments in respective programs.
2.1.5 Best Practices in Curricular Aspects (If any):	Initial curricula development was done in consultation with reputed scientists and technologists.

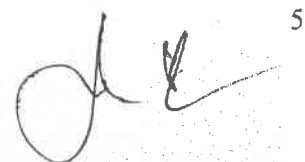| **2.2 Teaching-Learning & Evaluation:**	
2.2.1 Admission Process and Student Profile	- Admissions in UG programs are based on National level written test. - Six outside and four ISRO students are admitted in PG programs in each discipline. - Students are from all over India. - GOI reservation norms are followed.
2.2.2 Catering to the Diverse Needs:	- Slow learners are identified and a few departments offer remedial classes. - Interdisciplinary projects are not catered to adequately.
2.2.3 Teaching-Learning Process:	Teaching is mainly done through

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	traditional black board method. • UG projects are carried at reputed institutions. • Interactive classes are not observed. • Tutorials in 1st year of UG courses are available only. • Laboratory experiments related to earth science are yet to be operationalized.
2.2.4 Teacher Quality:	• 90% teachers have Ph.D. degree. • Many of teachers have post-doc experience. • Few teachers have received academic awards. • None of faculty members are fellows of any academy. • Demographic diversity in teacher recruitment needs improvement.
2.2.5 Evaluation Process and Reforms:	• Semester system is followed. • Continuous assessment is followed. • Seminar and other assignments seems to form part of evaluation. • Students are permitted to see the answer scripts. • No reforms/changes in evaluation process during the period of assessment.
2.2.6 Best Practices in Teaching-Learning and Evaluation (If any):	• 6 week internship for UG students. • Field trips to ISRO facilities.
2.3 Research, Consultancy & Extension:	
2.3.1 Promotion of Research:	• Start-up grants are given and research is promoted using internal funds. • Only 2-3 projects are from external agencies. • Teachers are supported to attend national and international conferences, seminars and workshops. • Research laboratories are yet to be fully equipped.
2.3.2 Research and Publications Output:	• Average number of research papers per faculty per year is less than two. • Some publications are in high impact journals. • Research output is not yet commensurate with the input. • Two books have been published.
2.3.3 Consultancy:	• Consultancy is yet been taken.
2.3.4 Extension Activities:	• Students have participated in various extension activities. • No NCC and NSS activities have been started.
2.3.5 Collaborations:	• A MOU with USRA for exchange of

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	• students/faculty exists in which 5 UG students were sent to USA. • Collaboration with some IITs, IISc etc. exists on personal level. • Output of the collaborative activities is not significant.
2.3.6 Best Practices in Research, Consultancy & Extension (If any):	• Internal funds are provided for research.
2.4 Infrastructure and Learning Resources:	
2.4.1 Physical Facilities for Learning:	• There are enough laboratories and lecture rooms are available for the present programs. • Teaching laboratories are well equipped. • Students work in groups in laboratories.
2.4.2 Maintenance of Infrastructure:	• The campus infrastructure is well maintained presently. • Adequate funding is provided for the maintenance purpose. • All equipment are under AMC/Warranty presently.
2.4.3 Library as a Learning Resources	• The present Library space is not adequate. • Main Library is under occupation. • The Library is computerized and networked with National Knowledge Network and inter-library loan with ISRO/DOS.
2.4.4 ICT as Learning Resources:	• Availability of computer facilities for students and faculty members is good. • The campus is wi-fi enabled. • Audio-visual studio has been set up and yet to be functional. • Only engineering class rooms are equipped with audio-visual facilities.
2.4.5 Other Facilities:	• Good hostel facilities are available. • Gymnasium, Health Centre, book store and Bank are available on the campus. • Student Activity centre is not available. • Out-door sports facilities for few games are available
2.4.6 Best Practices in the development of Infrastructure and Learning Resources (If any):	• Book bank facility is available.
2.5 Student Support and Progression:	
2.5.1 Student Progression:	• The dropout rate for UG students is very small. • Vertical growth of students is not there as they are immediately employed by ISRO laboratories. • Placement cell for students is yet to be

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	established.
2.5.2 Student Support:	• UG Students are provided full financial support for four years. • Progression of UG students is monitored. • Onsite counseling services for students not available. • Grievance mechanism for students is yet to be established
2.5.3 Student Activities: ·	• Students have some extracurricular activities, although limited. • Students are encouraged to participate in National level sports competition. • Overall students' participation in various committees has been limited. • Feedback from students for support services does not seem to exist.
2.5.4 Best Practices in Student Support and Progression (If any):	• NIL
2.6 Governance and Leadership:	
2.6.1 Institutional Vision and Leadership:	• The vision, mission and goals of the institution are to cater needs of Space Science. • Effective Leadership of administration is visible. • Decentralization of powers has been done. • Participation of various stakeholders in various decision bodies is not clear. • Leadership of HODs in providing broad-based education is not visible.
2.6.2 Organizational Arrangements:	• Hierarchy of the organization structure is normal. • No rotation for HOD/Dean positions is implemented so far. • Dean students' welfare position is not yet created. • Academic Council and Research Council should meet at least twice a year.
2.6.3 Strategy Development and Deployment:	• Long term plans have not yet been formulated. • Strategy development is linked to the Space science and technology requirements only.
2.6.4 Human Resource Management:	• Satisfaction level of students, staff and faculty seems to be good. • Adequate training for professional development for non-teaching staff is provided. • Grievance cells do not exist. • Reservation policy of GOI in faculty recruitment is not followed.

2.6.5 Financial Management and Resource Mobilization:	• More than adequate budget for various activities of the institution. • The institute is fully funded by the Department of Space, therefore, there is no effort of resource mobilization from outside agencies.
2.6.6 Best Practices in Governance and Leadership (If any):	• NIL
2.7 *Innovative Practices:*	
2.7.1 Internal Quality Assurance System:	• IQAC Cell exists.
2.7.2 Inclusive Practices:	• Student admission follows the GOI reservation rules. • Facilities for physically challenged persons are not there.
2.7.3 Stakeholder Relationships:	• Stakeholder relationship is satisfactory. • Communication with the stakeholders needs to be improved.

Section III: OVERALL ANALYSIS	*Observations (Please limit to five major ones for each and use telegraphic language) (It is not necessary to denote all the five bullets for each)*
3.1 Institutional Strengths:	• It is fully funded by the Department of Space. • It is the only institution which is training students exclusively for services in the Department of Space laboratories. • Its association with ISRO laboratories ensures high technology exposure to its students. • The UG laboratories are very well equipped. • Senior scientists and technologists are regularly invited for seminars and interaction with students and faculty.
3.2 Institutional Weaknesses:	• It caters to needs of a specific organization only. • Demographic profile of faculty need to be given national character. • Infrastructure is not yet adequate for research laboratories. • Long term perspective of the institution is not clear. • Faculty Housing is not available in campus.
3.3 Institutional Opportunities:	• It can make significant contribution in space programs. • It has potential to contribute towards cutting-edge technology in the country. • It can help smaller institutions in the region to promote research. • It can diversify in other areas of national importance.

3.4 Institutional Challenges:	• To start more programs in other cutting-edge technologies to meet need of the country. • To cater needs of space related industries. • To make weaker students come up to the expected level (CGPA greater than 6.5) so that they can also be employed by ISRO. • To sustain itself as an independent entity without DOS support. • To create an academic and research ambiance .

Section IV: Recommendations for Quality Enhancement of the Institution

(Please limit to *ten major ones* and use telegraphic language)
(It is not necessary to indicate all the ten bullets)

- Curricula may be revised more frequently to include recent advances in the field.
- Department of Chemistry and Department of Physics need to focus on other important areas.
- Inter Departmental collaboration and interdisciplinary courses may be planned.
- Department of Computer Sciences and Chemical Engineering may be established.
- Tutorial may be made mentoring in all the courses.
- All class rooms may be equipped with audio-visual equipment and should be utilized for enhancing effectiveness of teaching and learning.
- Sufficient space for research laboratories may be provided.
- An appropriate mechanism to take care of Grievances of students, staff and faculty may be established.
- National and International level collaborations may be more made effective.
- Canteen facilities may be provided for extended hours.
- The coordination between the institute and the ISRO laboratories for placing the students after the graduation may be made more effective.
- Student activity Centre may be provided at the earliest.
- Residentially facility for faculty and staff may be provided in the campus.

I agree with the Observations of the Peer Team as mentioned in this report.

डॉ. के. एस. दासगुप्ता / Dr. K. S. Dasgupta
निदेशक / Director
भारतीय अंतरिक्ष विज्ञान एवं प्रौद्योगिकी संस्थान
Indian Institute of Space Science and Technology
अंतरिक्ष विभाग / Department of Space
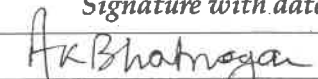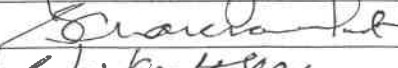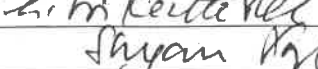भारत सरकार / Government of India
वलियमला ,तिरुवनंतपुरम
Valiamala, Thiruvananthapuram-695 547

Signature of the Head of the Institution

Seal of the Institution

Signatures of the Peer Team Members:

Name and Designation		Signature with date
ANIL K BHATNAGAR	Chairman	AKBhatnagar
SANDIP K. CHAKRABARTI	Member	
G. SRIKANTHASHARMA	Member	
SHYAM - LAL	Member	Shyam

Place: Thiruvananthapuram

Date: 17.04.2013

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