

Chapter 12

A Scientometric Profile of Vikram Sarabhai Space Center (VSSC) Based on Scopus Database

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ABSTRACT

This chapter creates the scientometric profile of Vikram Sarabhai Space Centre (VSSC) for the period from 1973 to 2016. The scientific productivity of the scientists is analyzed using scientometric indicators based on the data retrieved from the Scopus database. The analysis revealed that linear growth is prevailing. It also shows that the scientists are actively involved in disseminating their research findings in scholarly journals and G.V. Rao secured first position among the top-ranking authors. The Indian Institute of Science is the leading collaborating institution with VSSC and the United States is topmost collaborating country. Most of the scholarly communications of VSSC are published in the 'Journal of Sound & Vibration' and a majority of the records are of an article type. Most of the articles are published in the inter-disciplinary subject of Engineering. The study also found that the total number of citations received by the documents published from VSSC are 17395 and out of the 1783 documents published and 1385 documents received citations.

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INTRODUCTION

Scientometrics is one the technique of measuring information using quantitative and qualitative indicators. It is analogous to bibliometrics and infometrics, it uses mathematical and statistical techniques for the evaluation and predicting the advancement of science. The scientometrics may be defined as the application of those quantitative methods which are dealing with the analysis of science viewed as an information process (Nalimov & Mulcheno, 1969). Scientometrics is a technique of assessing scientific productivity of an individual, institution, subject or nation. Scientific literature produced by these entities reflects their scientific activity. Hence scientometric analysis is being increasingly used to evaluate the research performance of researchers, research institutions and the research trends in various disciplines. Mathematical and statistical tools are used to conduct these studies. Though bibliometric and scientometric techniques are found to be more or less similar, the emphasis of scientometric studies are the quantitative aspects of generation, propagation and use of scientific information, in order to contribute to understanding the mechanism of scientific research (Bormann, 2007).

BIOGRAPHY OF VIKRAM SARABHAI

Vikram Sarabhai was a pioneer of Indian Scientists and regarded as the Father of Indian Space Programme. He was born on 12th August 1919 at Ahmadabad, Gujarat and completed his college education at Cambridge University. He also worked as research scholar at Indian Institute of Science, Bangalore under the great Sir. C.V. Raman. He completed his Ph.D in 1947 from Cambridge University. His areas of interest are Solar Physics and cosmic rays. He was responsible for the establishment of Physical Research Laboratory in November 1947 at Ahmedabad. He played a major role in setting-up of a number of observation stations across the country and his continuous research on solar interplanetary physics identified the avenues for space research and space science. This had led him to form Indian National Committee for Space Research and he became chairman of the committee. Vikram Sarabhai set up the first Rocket Launching station at Thumba near Thiruvananthapuram, Kerala on the Arabian Coast as it is close to the Equator. The first rocket was launched from the launching centre on 21st November 1963. He received Shanti Swaroop Bhavnagar Memorial Award in 1962 and Padma Bhushan Award 1966 among the many such in his illustrious career.

VIKRAM SARABHAI SPACE CENTRE

After the incorporation of the Indian National Committee for Space Research (INCOSPR) in 1962, its first act was establishment of Thumba Equatorial Rocket Launching Station (TERLS) at Thumba in Thiruvananthapuram in 1968. It is the major space research centre of Indian Space Research Organisation (ISRO), actively involved on rocket and space vehicle for India's Satellite programme (www.isro.org). The Thumba Equatorial Rocket Launching Station was renamed in honour Vikram Sarabhai as Vikram Sarabhai Space Research Centre (VSSC) in 1971. Developing sounding rockets, launch vehicles and certain technologies associated with space craft are the responsibilities of VSSC. In the early 1980s, VSSC was instrumental in the development of India's Satellite Launch Vehicle program, SLV-3. This

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