

中国学者“陆地卫星”主题论文计量分析

■ 卢冰

1972年，美国发射陆地卫星（Landsat）系列的第一颗星Landsat-1，宣告常规陆地观测和监测真正进入卫星时代。中国是就陆地卫星开发利用最早与美国合作的国家之一。

基于Web of Science平台下的SCIE数据库，2000—2023年，以“陆地卫星”为主题的学术论文（SCI论文）有25651篇。其中，我国学者发表的论文有7257篇，占比为28.3%，在所有国家和地区中排名第二。从图1可以看出，中国学者利用陆地卫星发表的论文呈逐渐增长趋势，2022年达到1096篇。2023年末，发表论文数量为925篇。

通过对7257篇中国学者论文的研究领域进行分析，发现我国学者利用陆地卫星发表的论文，主要涉及环境生态学、遥感科学、影像科学及摄影技术、地质学、工程学、自然地理学、气象学和大气科学、农学、计算机科学等。图2给出中国学者以陆地卫星为主题的SCI论文主要学科分布。

表1给出以陆地卫星为主题发表的论文中第一作者来自中国的被引频次排名前十的论文。表2聚焦了气象和大气科学领域。从第一作者所在机构可以看出，几乎都出自各大高校和中国科学院。

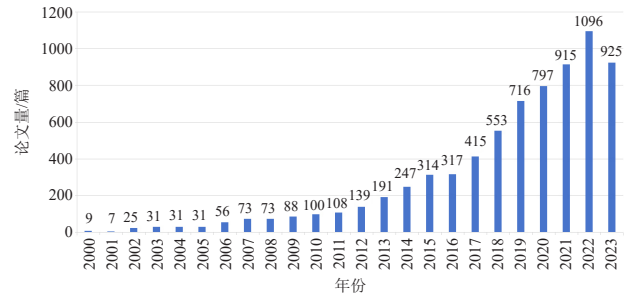


图1 中国学者以陆地卫星 (Landsat) 为主题的SCI论文年份分布

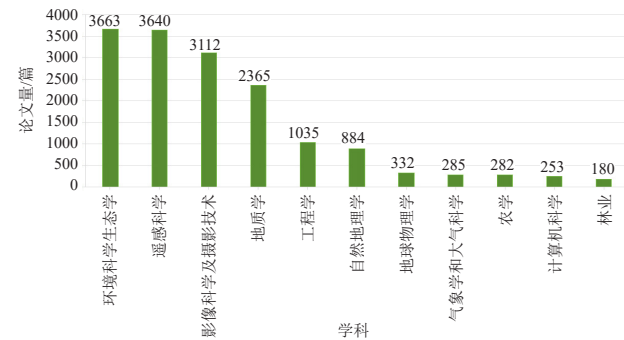


图2 中国学者以陆地卫星为主题的主要学科分布

表1 第一作者为中国学者的被引频次排名前十的陆地卫星主题论文

序号	标题	第一作者 (机构)	出版年份	被引频次
1	Modification of normalised difference water index (NDWI) to enhance open water features in remotely sensed imagery	Xu, Hanqiu (福州大学)	2006	2767
2	Spatiotemporal characteristics, patterns, and causes of land-use changes in China since the late 1980s	Liu, Jiyuan (中国科学院)	2014	1236
3	Global land cover mapping at 30 m resolution: A POK-based operational approach	Chen, Jun (中国国家地理信息中心)	2015	1139
4	Finer resolution observation and monitoring of global land cover: first mapping results with Landsat TM and ETM+ data	Gong, Peng (清华大学)	2013	1102
5	Remote sensing image-based analysis of the relationship between urban heat island and land use/cover changes	Chen, Xiao-Ling (武汉大学)	2006	1044
6	An enhanced spatial and temporal adaptive reflectance fusion model for complex heterogeneous regions	Zhu, Xiaolin (北京师范大学)	2010	806
7	Spatial and temporal patterns of China's cropland during 1990—2000: An analysis based on Landsat TM data	Liu, Jiyuan (中国科学院)	2005	792
8	Impacts of landscape structure on surface urban heat islands: A case study of Shanghai, China	Li, Junxiang (华东师范大学)	2011	729
9	Study on spatial pattern of land-use change in China during 1995—2000	Liu, Jiyuan (中国科学院)	2003	644
10	The 30 m annual land cover dataset and its dynamics in China from 1990 to 2019	Yang, Jie (武汉大学)	2021	520

表2 气象和大气科学领域第一作者为中国学者的被引频次排名前十的陆地卫星主题论文

序号	标题	第一作者 (机构)	出版年份	被引频次
1	The 30 m annual land cover dataset and its dynamics in China from 1990 to 2019	Yang, Jie (武汉大学)	2021	520
2	GLC_FCS30: global land-cover product with fine classification system at 30 m using time-series Landsat imagery	Zhang, Xiao (中国科学院)	2021	308
3	Improving winter wheat yield estimation by assimilation of the leaf area index from Landsat TM and MODIS data into the WOFOST model	Huang, Jianxi (中国农业大学)	2015	275
4	Assimilating a synthetic Kalman filter leaf area index series into the WOFOST model to improve regional winter wheat yield estimation	Huang, Jianxi (中国农业大学)	2016	202
5	Development of a global 30 m impervious surface map using multisource and multitemporal remote sensing datasets with the Google Earth Engine platform	Zhang, Xiao (中国科学院)	2020	140
6	Integrating Multi-Source Data for Rice Yield Prediction across China using Machine Learning and Deep Learning Approaches	Cao, Juan (北京师范大学)	2021	103
7	High-temporal-resolution water level and storage change data sets for lakes on the Tibetan Plateau during 2000—2017 using multiple altimetric missions and Landsat-derived lake shoreline positions	Li, Xingdong (清华大学)	2019	99
8	How does the conversion of land cover to urban use affect net primary productivity? A case study in Shenzhen city, China	Yu Deyong (青岛大学)	2009	98
9	Influence of land use change on urban heat island derived from multi-sensor data	Hu, Yonghong (中国科学院)	2010	97
10	Spatiotemporal variations in volume of closed lakes on the Tibetan Plateau and their climatic responses from 1976 to 2013	Yang, Ruimin (中国科学院)	2017	92

(作者单位：中国气象局气象干部培训学院)