

2019 IEEE Recent Advances in Geoscience and Remote Sensing: Technologies, Standards and Applications (TENGARSS 2019)

**Kochi, Kerala, India
17-20 October 2019**



**IEEE Catalog Number: CFP19V68-POD
ISBN: 978-1-7281-4073-5**

**Copyright © 2019 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP19V68-POD
ISBN (Print-On-Demand):	978-1-7281-4073-5
ISBN (Online):	978-1-7281-4072-8

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

STATISTICAL INFORMATION THEORY AND GEOMETRY FOR SAR IMAGE ANALYSIS : INVITED PAPER	1
<i>Alejandro C. Frery</i>	
EFFECT OF SPECTRAL SHAPE OF CALIBRATION SOURCE ON RETRIEVED OCEAN RADIANCE AND REFLECTANCE	5
<i>Drn Samudraiah ; A. Senthilkumar ; Yvn Krishan Murthy ; Ujjwal Kumar</i>	
STATISTICAL PROPERTIES OF GEODESIC DISTANCES BETWEEN SAMPLES AND ELEMENTARY SCATTERERS IN POLSAR IMAGERY	11
<i>Danilo Fernandes ; Alejandro C. Frery</i>	
AUTOMATIC ROAD FEATURE EXTRACTION USING MRF FROM LANDSAT-8 OLI IMAGES	15
<i>S. Lenin Kumar Reddy ; C. V. Rao ; P. Rajesh Kumar ; R. V. G. Anjaneyulu ; Vinod M Bothale</i>	
DETECTION OF FISHING BOATS IN SAR IMAGE USING LINEAR MOMENTS AND MACHINE LEARNING	21
<i>Sasanka Kumar Sasamal ; Naresh K. Mallenahalli</i>	
AUTOMATIC LABELLING OF END MEMBERS EXTRACTED FROM HYPERSPECTRAL DATA	26
<i>D. Sita ; P. Srinivas ; P Kameswari Devi ; S. Mahalingam ; P V Radha Devi</i>	
MULTICRITERIA ANALYSIS FOR LANDSLIDE INVENTORY MAPPING USING PS-INSAR	30
<i>Devara Meghanaadh ; Ashutosh Tiwari ; Ramji Dwivedi</i>	
RESERVOIR FACIES CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORKS	34
<i>Pallabi Saikia ; Deepankar Nankani ; Rashmi Dutta Baruah</i>	
A COMBINED FRAMEWORK FOR DIMENSIONALITY REDUCTION OF HYPERSPECTRAL IMAGES USING FEATURE SELECTION AND FEATURE EXTRACTION	39
<i>Susmita Ghosh ; Payel Pramanik</i>	
DESIGN AND IMPLEMENTATION OF IOT SOLUTION FOR AIR POLLUTION MONITORING	45
<i>Aarathi Ramesh Muppalla ; Mahesh Pathakoti ; Vinod M Bothale ; G Biswadip ; M. V. R Sesha Sai ; V Subramanian ; K S Rajan</i>	
A CASE STUDY OF A REMOTE SENSING USING WSN	49
<i>Renu Kachhoria ; Shirshu Varma ; M. Radhakrishna</i>	
MILLIMETER WAVE GRID ARRAY ANTENNA FOR WIRELESS POWER TRANSMITTER	54
<i>R Gopika ; Chinmoy Saha</i>	
A GAAS BASED MINIATURIZED C-BAND DOUBLE BALANCED RESISTIVE IQ MODULATOR FOR SYNTHETIC APERTURE RADAR (SAR) APPLICATIONS	57
<i>Sanghamitra Mishra ; Nidhi Singh ; Jolly Dhar ; Chinmoy Saha</i>	
AN AMC BACKED SLOTTED GROUND ANTENNA FOR BROADSIDE RADIATION AND HIGH GAIN	61
<i>Elizabeth George ; Chinmoy Saha</i>	
REALIZATION OF S-BAND AMPLIFIER USING GAIN EQUALIZER FOR TELEMETRY APPLICATIONS	64
<i>B S Ayisha ; T J Apren ; Chinmoy Saha ; Sherly Joy</i>	
BIG SAR DATA PROCESSING: INTERFEROMETRIC AND POLARIMETRIC SAR DATA STRUCTURIZATION BASED ON COMPLEX-VALUED AND QUATERNION NEURAL NETWORKS	68
<i>Akira Hirose</i>	
ELECTROMAGNETIC SIMULATION OF A COMPLEX RADIO FREQUENCY DEVICE	74
<i>Vikass Monebhurrn</i>	
AN EFFICIENT APPROACH FOR GEO-LOCATION ACCURACY IMPROVEMENT OF LEGACY IRS-1C/1D DATA PRODUCTS	76
<i>Indranil Misra ; Vivek Sharma ; S Manthira Moorthi ; Debajyoti Dhar</i>	
FUSION OF EVIDENCES FOR EDGE DETECTION IN POLSAR IMAGES	80
<i>Anderson A. De Borba ; Mauricio Marengoni ; Alejandro C. Frery</i>	
EVOLUTION OF VALUE ADDITION PROCESS FOR GENERATION OF NORMALISED DIFFERENCE VEGETATION INDEX (NDVI) PRODUCT – A CASE STUDY	86
<i>A Hyndavi ; Latha James ; R V G Anjaneyulu ; S Suresh ; C Venkateswara Rao ; Vinod M Bothale</i>	

HABITAT BASED IDENTIFICATION OF FOREDUNE AND INCIPIENT FOREDUNE BY PER PIXEL AND SUB PIXEL APPROACH, A CASE STUDY FROM PANAIYUR COAST, TAMIL NADU, SOUTH INDIA	92
<i>Praveenraj Durai ; Nisha P Radhakrishnan ; Aparna S Bhaskar</i>	
HIGH FREQUENCY APPLICATIONS OF METAMATERIALS AND METASURFACES	96
<i>Somak Bhattacharya ; Chinmoy Saha ; Jawad Y. Siddiquiand</i>	
NON-DESTRUCTIVE TREE VOLUME ESTIMATION USING TERRESTRIAL LIDAR DATA IN TEAK DOMINATED CENTRAL INDIAN FORESTS	100
<i>T. Mayamanikandan ; R Suraj Reddy ; C. S. Jha</i>	
INTERNAL WAVE DETECTION AND CHARACTERIZATION WITH SAR DATA	104
<i>Samvedya Surampudi ; Sasamal Sasanka</i>	
MONITORING LAND SURFACE USING TERRESTRIAL L-BAND RADIOMETER	109
<i>Sooraj Krishnan ; Akhilesh. S. Nair ; J. Indu</i>	
SOIL MOISTURE CONTENT DETECTION BASED ON GNSS REFLECTOMETRY	112
<i>C D Raisy ; Sharda Vashisth ; Amitava Sen Gupta</i>	
A STUDY ON THE SEA-ICE SIGNATURE OF THE SOUTH POLAR REGION USING SYNTHETIC APERTURE RADAR	116
<i>S Haripriya ; S Srisudha ; Evs Sita Kumari ; B Santhisree ; Avv Prasad ; K Chandrasekaran</i>	
OFF-NADIR VIEWING EFFECTS IN HIGH RESOLUTION DATA	123
<i>G. Meena Kumari ; T. Radhika ; R V G. Anjaneyulu ; C Venkateswara Rao ; Vinod M Bothale</i>	
BACKGROUND CHARACTERIZATION OF ANOMALIES USING HYPERSPECTRAL DATA	128
<i>Soumen K. Das ; P Srinivas ; D Sita ; S Mahalingam ; P V Radha Devi</i>	
REFLECTANCE BASED VICARIOUS CALIBRATION OF HYSIS SENSORS AND SPECTRAL STABILITY STUDY OVER PSEUDO-INVARIANT SITES	132
<i>S. Mahalingam ; P. Srinivas ; P. Kameswari Devi ; D. Sita ; Soumen K Das ; T. Sushma Leela ; V. Raghu Venkataraman</i>	
A STUDY ON SST DEPENDENT BIASES IN SCATSAT-1 RETRIEVED WINDS	137
<i>Rajesh Sikkakolli</i>	
STUDY OF OPEN SOURCE WEB MAP RENDERING SOFTWARE FOR RENDERING BHUVAN HIGH RESOLUTION SATELLITE DATA	141
<i>Aarathi Ramesh Muppalla ; N Naresh ; P Aravinda Kumar ; Vinod M Bothale ; A K Joshi ; A V V Prasad</i>	
MAPPING OF BURNT AREA AND BURNT SEVERITY USING LANDSAT 8 IMAGES: A CASE STUDY OF BANDIPUR FOREST FIRE REGION OF KARNATAKA STATE INDIA	146
<i>Shubhaswi Ananth ; T R Manjula ; G. S Niranjan ; Sahana Kumar ; A. Raghuveer ; G Raju</i>	
GEOSTATISTICAL MODELING OF SOIL NUTRIENTS AND DEVELOPMENT OF A MOBILE APPLICATION FOR SITE-SPECIFIC FERTILIZER RECOMMENDATION	148
<i>Radhakrishnan Thanu Iyer ; Manojkumar Thananthu Krishnan ; Sudhis Kumar Krishna Pillai ; Lal Prakash Prabhakaran Lalitha</i>	
ASSESSMENT OF BURN SEVERITY USING DIFFERENT FIRE INDICES: A CASE STUDY OF BANDIPUR NATIONAL PARK	151
<i>Preethi Konkathi ; Amba Shetty</i>	
Author Index	