

Annexure-1 : List of Completed RESPOND Projects From 2000 - July 2018

Sl. No	Title of the Project
1.	Role of metal cyanogen complexes as prebiotic catalyst
2.	Two-Phase flows in composite domains under microgravity conditions
3.	Auroral electrodynamics by Kinetic Alfvén Waves
4.	Mössbauer spectroscopic investigation of meteorites and correlation with their pre terrestrial history
5.	Study of meteorites and their impacts on earth
6.	Structure-property correlations in ultra high strength steels
7.	Development of linear motor
8.	Corrosion behaviour characterisation of 18 Ni 250 grade maraging steel in alkaline and neutral media
9.	Performance of Isogrid and some stiffening arrangement in composite arrangement in composite stiffened shells
10.	A Study of glass and silicon carbide fiber reinforced Al(6061) hybrid composite for space applications
11.	Micro level planning of forest resources development using high resolution satellite data
12.	Cotton Growth and Yield Modelling using Spectral-Agromet Observation and GIS
13.	Resources Utilisation Pattern and its Impact on the Biodiversity in the Lake Region of District Nainital, Kumaon Himalaya, Using RS & GIS
14.	Estimation of Rain parameters from Doppler Radars
15.	Indian concepts of cosmology
16.	Development of automated data analysis techniques for spectroscopic and photometric astronomical data
17.	Monsoon Onset Boundary Layer Experiment
18.	The diffused UV sky on Astrosat modelling
19.	Design and analysis of impact resistance structures
20.	Development of intelligent pressure sensors for dynamic environment
21.	Satellite Astrometry using Radio Interferometric Techniques
22.	VHF Radar measurement of momentum fluxes of gravity waves and tide over lower atmosphere over a tropical station

23.	A study of coupling between radiometer measured aerosols and RADAR sensed winds
24.	Studies of aerosols climatology and effects in relation to atmospheric aerosol research for GBP applications
25.	Synthesis of biomolecules during star formation and their detection with microwave and millimeter wave grating
26.	Quantifying the Methane flux from cattle manure dumps in the rural area
27.	Modulation of galactic cosmic ray intensity in the three dimensional heliosphere
28.	Development of image compression algorithms using EZW, SPIHT and PZW coding techniques
29.	Object based Software Fault Tolerant Architecture for Real Time application (SOFTART)
30.	Automatic generation of test vectors for VLSI design
31.	Buckling and non-linear post buckling analysis of stiffened composite shells based on wavelet Galerkin projection
32.	Search for potential electrode materials for Li-Ion
33.	Preparation and characterization of E-Glass fibre reinforces polyurethane matrix composites for space application
34.	Development of parallel / concurrent genetic algorithms for test cases / sequences generation of VLSI testing
35.	Use of Fibre Optic Sensors for strain displacement and load measurement data acquisition transmission through FO Glass
36.	Long term and short term short line changes and sedimentation pattern along the coast between Honnavar and Bhatkal, Uttara Kannada District Karnataka
37.	Estimation and modelling of suspended sediments, littoral, transport and coastal dynamics in the coastal waters off southern Karnataka
38.	Retrieval and budgeting of soil moisture and data monitoring from IRS-P4 (OCEANSAT-1) mission data-climate of Andhra Pradesh
39.	Study of mixed layer dynamics of the North Indian ocean using satellite data
40.	Analysis of the precipitation, surface wind and water vapour during the intensification of the tropical cyclones over Bay of Bengal using TRMM, MSMR and SSMI data
41.	Some studies on coastal upwelling phenomena along the Indian coasts using satellite and hydrographic data
42.	Design and development of RS based information system for marine Archaeology
43.	An ecological account of the faunal biodiversity of Sriharikota Island and its environment
44.	Estimation of precipitation over Andhra Pradesh from satellite IR and NW data
45.	Development of regional language interface for information retrieval from data base

46.	Development of RS & GIS based decision support from planning Mine closure for western coalfields
47.	Integrating RS data GIS & Hydrological modelling for assessment of rural water supplies
48.	Fractal image compression using neural network
49.	Prediction of offshore and near shore wave climate and sediment transport along the east coast of India using MSMR
50.	Satellite data compression and decompression
51.	National standard for digital geo-spatial metadata and software development for metadata toolbox
52.	Impact assessment of slope stability and sedimentation on land degradation processes in outer Garhwal Himalayan region
53.	Knowledge based processing of epigraphy texts
54.	Characterization of Aerosols
55.	Study of polarization properties of radiation emitted from accretion disks around compact objects
56.	Studies on aerosol monitoring and their impact on atmosphere
57.	Estimation of dissociation energy of diatomic molecules of interest in cometary studies
58.	Investigations of the structure and evaluation of selected interstellar bubble
59.	Identification and characterization of passive detection materials for heavy ion detection
60.	Study of short period gravity waves and associated momentum fluxes in the tropical middle atmosphere using MST radar & Lidar
61.	Development and characterization of organic and polymeric nonlinear optical materials relevant to space technology
62.	Design and development of active filters and oscillators to operate at low frequencies
63.	Photochemical metallodendritic supra- molecular assemblies as light harvesting antennas
64.	Precise location of INSAT using connected element interferometer

65.	An improved finite element model and solution procedure for damage tolerance analysis of spacecraft shell structures
66.	Design, development and realization of a ultra-high temperature sensor to measure very high process temperatures in applications like electron beam welding, vacuum brazing and annealing of metallic components
67.	Epoxy resin/engineering thermoplastic blends: miscibility phase morphology crystallization & ultimate properties
68.	Design, development and optimization of anodic bonding process for MEMS applications
69.	Development and performance analysis of silica/phenolic resin composites for usage in spacecrafts
70.	Short term risk assessment due to evolving debris clouds in low earth orbits
71.	Development of techniques for fabrication of PEEK/CF composites and characterization
72.	Mathematical modelling and computer simulation to predict friction and wear performance of solid lubricant coatings
73.	Studies on the damage mechanics of composite structures
74.	Applications of chaos theory to 2-D interpolation of irregular data set image compression
75.	Urban squalor has a facet of urban landscape: environment issue from Hyderabad
76.	Evolution of ground water potential zones using remote sensing and GIS techniques in the hilly terrains of Devak-rui watershed
77.	Visual Cryptographic Schemes
78.	Steganographic schemes for satellite images
79.	Development of an indigenous Block cipher scheme for ISRO
80.	Geotechnical investigation of land instability in Kohima Town and along national highway 39, between Chumukedima and Senapati
81.	Content based retrieval of remotely sensed data
82.	Reliability assessment of a solid rocket motor with limited data
83.	Evaluation of reliability of a unit of flight control software
84.	Computational intelligence approaches to design land cover classifiers with emphasize on universal land cover classifiers
85.	Land use planning and management of natural resources of Dhar district through remote sensing
86.	Identification of Palaeochannels and reconstruction of past fluvial system of Kerala Region through remote sensing applications
87.	Monitoring of flamingo's traditional ground and evaluation of alternate breeding ground for their conservation through remote sensing

88.	Dynamic modelling for pattern recognition using artificial neural networks
89.	Integrated coastal zone management and ecological evaluation of Vedaranyam coast using remote Sensing and GIS
90.	LITHYPER: Lithological Discrimination using Hyper spectral Data and its comparative evaluation with satellite data
91.	Development of land cover classification methodology with fusion of data from different sensors
92.	Study on intracratonic deformation and landform development in Central Aravalli terrain, Rajasthan using Space imagery
93.	Liquid sloshing in spherical tanks under microgravity conditions
94.	Plasma conditions in the inner corona
95.	Cosmic ray induced ionization changes and effects aerosol and cloud micro-physical properties
96.	Supramolecular organization in chemical evolution and origin of life
97.	Study of galactic ionized regions using radio recombination lines
98.	Studies of finite amplitude double layers in space plasma
99.	Development of a theoretical model for investigations of the Indian equatorial and low latitude ionosphere
100.	Studies on Volatile Organic Compounds (VOCs) in Chhattisgarh(Central India)
101.	High speed architectures for satellite image compression on reconfigurable platforms
102.	Effect of liquid propellant spillage on soil, groundwater and ecology and mitigation measures
103.	Deep Level Transient Spectroscopic (DLTS) study of radiation induced degradation of electronic devices
104.	Effect of ionized plasma medium on antenna structures mounted on re-entry vehicles
105.	Investigation of different neural network techniques for rocket trajectory estimation
106.	Formal specification – based object testing
107.	Software development for design and simulation of MOEMS based sensors
108.	Oxazolo (4,4-d) oxazole based liquid crystal line thermo sets for rocket applications
109.	Development and characterization of high temperature thin film thermocouples for aerospace applications
110.	Corrosion behaviour and characterization of Al alloy 2219 in different media under different conditions
111.	Heat transfer studies in a porous media
112.	Synthesis and electrical resistivity studies on filled skutterudites

113.	Thermal analysis of various elements in an enclosure accounting for shadowing effects
114.	Development of particulate reinforced Al MMCs with superior thermal properties for space applications
115.	Development of Al foam for structural application
116.	Development of a remote sensing and GIS based methodology for ground water Protection framework
117.	Deterministic predictions of meteorological parameters with a meso-scale model for operational applications
118.	Image fusion for improvement in quality and classification accuracy
119.	Estimation of sediment flux and shoreline change prediction along Godavari delta front
120.	RS-GIS studies for biodiversity characterization at landscape level in Jharkhand forests
121.	Development of site specific nutrient management through precision farming technology in rice-wheat cropping system
122.	Bayesian automated recognition of targets (BAPT) from remotely sensed airfield images
123.	Number theoretic approach to Cryptanalysis
124.	Development of space qualified high temperature super conducting thin film microwave applications
125.	Development of microwave dielectric resonators and high KMIC substrates
126.	Socio-cultural dynamics of water shed development programmes: a cross cultural study in India
127.	Participation and its impact on sustainability of natural resources: A sociological study in Mahbubnagar
128.	Remote sensing for identification and study of palaeochannels and archaeological sites
129.	Detection and impact assessment of Moisture stress on crop yield of Maize using remote sensing
130.	Soil, fertility assessment and nutrient management for optimum crop production using remote sensing and GIS
131.	Space Technology, forest and the people :A study of the Impact of RS technology on joint forest management
132.	High power radio propagation through plasma sheaths surrounding space vehicles
133.	MST Radar signal processing employing wavelet
134.	An integrated model for risk zone mapping of storm surge related hazards along the West Bengal Coast
135.	Ion exchange mechanism of the aerosols of lower tropospheric atmosphere in Chattisgarh region
136.	Radio, X-ray and Gamma-ray monitoring of micro-quasars

137.	Extraction of multispectral features from satellite imagery
138.	Origin of life and evolution of function in biological macromolecules: functional implications of gene duplication during evolution
139.	Modeling and calculations on atomic-molecular collision processes relevant in planetary and astrophysical systems
140.	Mathematical modelling of smart material in a poorly electrically saturated composite materials
141.	Study of minor bodies of solar system by simulating laboratory data to match with spacecraft observations
142.	CPLD based control and introducing system for Indian MST radar transmitter
143.	MST radar signal processing using wavelets and harmonic decomposition
144.	Investigation of tropical convection through observations of gravity waves and troposphere-stratosphere exchange of various parameters
145.	Role of metal oxides as Catalyst in chemical evolution and origin of life
146.	Observations of Shallow and Deep convection and their role in generation of gravity waves using Indian MST Radar
147.	Study of ionospheric scintillation (UHF and VHF) and TEC at the Crest of the Appleton anomaly at Udaipur
148.	Analysis of PIV and PLIF Images for fluid flow characterization and visualization
149.	Wavelet based vibration monitoring in flight/space vehicles
150.	Spray formation with a generic pressure swirl atomizer for air breathing and cryogenic propulsion systems
151.	Optimization of Weld parameters of Al-Li alloys including weld repair protocol
152.	Evaluation of thermal properties of E-glass short fibre and silicon carbide Reinforced hybrid MMC for space Applications
153.	Study on improvement of surface finish in EDM Drilling process by means of electrode rotation
154.	Development of nanocrystalline Al ₂ O ₃ dispersed Cu-Matrix composites
155.	Investigation of flow field interaction around protrusions at supersonic speeds
156.	Fibre reinforced composites joints
157.	Evaluation of Coconut Oil as metal working fluid in the machining of AISi 304/314 in respect of reducing chatter
158.	Investigation of Titanium Lined composite pressure bottles
159.	Automated design methodology for aero- space structures subjected to severe thermo mechanical loads
160.	Compressible viscous flow calculations using the mesh less solver LSFD-U
161.	Synthesis of novel thermo-responsive polyurethanes cross linked with hyper branched polymers

162.	GENSOLV: A software tool for genetic optimization of launch vehicles
163.	Development of Transducer from conducting composite
164.	Six degree of freedom modelling and closed loop robust control of a reusable winged body satellite launch vehicles
165.	Laser processing of Ceramic Coatings on Aluminium, Titanium and Related Aerospace alloys
166.	Synthesis of cristobalite from silica precursors and study of its reinforcing properties in polysiloxane networks as relevant to space applications
167.	Development and implementation of JPEG 2000 image compression algorithm for Monochrome and color images in ADSP
168.	Preparation and Property Evaluation of Beryllium based metal matrix composites for light weight and high strength structural Application
169.	Dynamic Modelling and simulation of multi body satellite systems
170.	Study of Vector Plasma Drift at the Equatorial Ionosphere
171.	Automated Interpretation of Industrial radiographs using ANN
172.	Development of Fast and Effective cryptographic techniques
173.	Advanced techniques for content based retrieval of digital multimedia databases
174.	Space weather effects and their modelling with respect to Indian Geo-stationary satellites during 2000-2004
175.	Site selection for mini hydel project using RS and GIS in the Kalimpong sub-division of West Bengal
176.	Study of rain bearing monsoon clouds using INSAT Data
177.	Intraseasonal oscillation of precipitation and its coherence with circulation during monsoon using TMI data
178.	Numerical simulation of atmospheric dispersion for Kerala Coast
179.	Vertical structure and dynamics of tropical mesoscale convective systems observational and modelling studies
180.	Crustal deformation studies on seismically active N45° E Fault zone of southern granulite terrain in TN, using GPS aided geodetic techniques
181.	Study of higher order modes in micro strip antennas
182.	Detection of weeds for precision crop management using Remote sensing technique
183.	Assessment of salt affected and water logged areas in Upper Krishna project
184.	Influence of Forest Cover Change on watershed functions in Western Ghats
185.	Investigations into some ecological aspects of Sriharikota Island:(1) plant animal relationships with special reference to food plants of birds and mammals (2) Ecology of slender loris (Loris Tardigradus) with special reference to vegetation types
186.	Multi-seed classification for multi spectral satellite images based on fuzzy logic minimum distance classifier

187.	Crown counts of trees growing in Shoolpaneshwar sanctuary by using Hyper-spectral sensing
188.	To delineate multipurpose tree communities using multi concept remote sensing data as a pilot R&D for future Indian Remote Sensing Satellites
189.	Legal regime on asset based financing and leasing of mobile equipments in space and protection of International Interest thereof: study with reference to UNIDROIT convention and its draft protocol from the perspective of India
190.	Modelling of ground water pollution through RS & GIS – A case study for Cauvery basin from Mettur Reservoir to Erode Town
191.	Wavelet based urban change detection technique for RS data and Database creation using GIS
192.	Detection of pests and diseases for precision crop management using RS Techniques
193.	Research activities related to NMRF at the advanced centre for atmospheric sciences (NMRF)
194.	Development of artificial neural network scheme to TAUVEK satellite
195.	A study on the variability of total electron content near the crest of the equatorial anomaly in the Indian zone
196.	Analytical modelling and numerical simulations of the quasi periodic oscillations of black hole candidate
197.	Study of grain chemistry in relation to the formation of complex molecules in collapsing molecular clouds
198.	Anomalous phenomenon C ₃ H and C ₃ D cyclic molecules
199.	Spectral and temporal analysis of the observed data from two black hole C candidates
200.	Fabrication and characterization of Organic Solar Cells(OSC)
201.	Elastomer-based polymer nano composites for control system bladders
202.	Numerical and experimental analysis of carbon phenolic composite shells under impact
203.	Finite element model updating based on experimental test results
204.	Development AO and VUV radiation resistant polyimides
205.	Stress corrosion studies on Al-alloys (like Al-7075 - T 7351 and Al 7075 - T651)
206.	Development of emulsion polymerization process for acrylonitrile-methyl acrylate - itaconic acid terpolymers
207.	Conversion of light to electricity by the photo-sensitization of nano-crystalline TiO ₂ by light harvesting metallodendritic supramolecular assemblies
208.	Nano powdered filled conductive polymer composites for space applications
209.	Theoretical and experimental investigation of thermal contact resistance at the interfaces of thermal insulation systems and structural assemblies

210.	Laser Assisted Disposition(LAD) of thermal barrier coatings for space shuttle applications
211.	Toughening studies of epoxy (DGEBA) resins
212.	Development of polymer woven glass based low permittivity and low loss microwave substrate
213.	Segmented Polyurethane (SPU) based nano-composites from functionalized nano-clays with special reference to fire and flammability properties
214.	Safe and effective water harvesting site selection model based on critical slope analysis using remote sensing
215.	Development of EMI shielding/static charge dissipating materials from electrically conducting PANICNs for space applications
216.	Inverse heat conduction
217.	Effect of processing on properties of polymer composites by microwave curing
218.	Synthesis and characterization of organophilic nano clays
219.	Development of non-linear membrane elements with wrinkles and slack regions for design/ analysis of inflatable structures
220.	Development of pulse tube cryocooler
221.	Remote sensing based analysis of vegetation succession/recovery in the event of fire damage in Bhadra Wild life Sanctuary of Western Ghats
222.	Monitoring of post -tsunami malariogenic conditions in Car Nicobar Island using satellite remote sensing
223.	Development of a simulator for airborne altimetric LIDAR
224.	Precision farming techniques in sugarcane cultivation
225.	Mapping and exploration of low-grade iron ore deposits in the Northern districts of Tamil Nadu State, India
226.	A cost effective smart antenna for mobile broadband applications
227.	Analysis of errors made by operators during digital mapping from cognitive style perspective
228.	Bioremediation of water contaminated with industrial effluents
229.	Development of protocol for vector borne schistosomiasis using remote sensing and GIS
230.	Quantitative study of evolution of mesoscale convective system by Doppler weather radar and its application in precipitation now casting
231.	Analysis of satellite derived wind and wave parameters for coastal waters off Karnataka
232.	Design and development of high power solid state transmit receive module at HF/VHF frequencies
233.	Effect of solar output and its variations near geo-space environment
234.	Three dimensional simulation of convection in stellar convection zones

235.	Investigation of collective processes in laboratory dust plasma
236.	Study of correlation between ionospheric activities with earthquakes by monitoring Very Low Frequency (VLF) signals
237.	Morphological and spectral properties of the hot gas in early type galaxies
238.	Study on different heating and synchronized measurement techniques for infrared thermography applied to NDE of honeycomb composite spacecraft components
239.	Development of multi- frequency SODAR for temperature profile measurements
240.	64 Bit architecture for space applications-A study
241.	Extruded Al6063 - TiB ₂ composites for space applications
242.	Development of artificial intelligence for interpretation of ultrasonic test data
243.	Simulation of multistage deep drawing of inconel alloy for aerospace applications
244.	MEMS based micro propulsion devices for microsatellite programme
245.	Development of nano structured binary spinal sulphide for hydrogen generation using solar energy
246.	Restoration and deblurring of images using blind deconvolution techniques
247.	Micro resonating differential pressure sensor; simulation and electronic interface design
248.	Uncertainty analysis of chain error in instrumentation system
249.	Control of flexible and re-configurable parabolic antenna using SMA based smart actuators
250.	Urban disaster management and emergency response
251.	Development of multi modal interface for information retrieval in regional language from database
252.	Archaeological investigations using remote sensing techniques
253.	Detecting, locating, identifying and documentation of the monuments and cities of the eastern Vindhya using Remote Sensing
254.	Dynamics of urban pollution: A curative strategy using RS and GIS techniques - A case study of mega city of Delhi
255.	North-Eastern Regional Institute of Water & Land Management
256.	Reconstruction of 3D objects from stereo space imagery for development city models
257.	Classification of hyperspectral remote sensing data to discriminate between crop condition, variety and stage
258.	Synthesization and characterization of lead zirconite titanite polymer composites for high range pressure sensor and accelerometer

259.	MST Radar observations of meteors and the investigations of equatorial E-region electro-dynamics
260.	Studies of ionospheric and magnetosphere interaction: role of dust due to meteor showers and Kelvin - Helmholtz instability on the ground magnetic field variations
261.	Development of machine learning tools for astronomy research
262.	Optical spectroscopic study of Polycyclic Aromatic Hydrocarbon (PAH) starts
263.	Interpretation of the observed extinction in the optical UV region from TAUDEX and Astrosat UVIT satellite data base
264.	On the application of wavelet analysis to identify geo-magnetic jerks in the Long period global magnetic Observatory Data
265.	Hematite water systems on Mars and its possible role in chemical evaluation
266.	Polymer nanocomposites for Inflatable Space Structures (ISS)
267.	Investigation of heat transfer phenomenon at high heat flux in nucleate flow boiling
268.	Modelling and characterization of fracture toughness of metal matrix composites
269.	Non-linear stability of L4 in the circular and elliptic restricted three body problem for radiated axes symmetric rigid primaries with resonances
270.	Design and fabrication of polymeric modulator for space technology applications
271.	Development of ultrafine grain aluminium alloy and composites through Equal Channel Angular Pressing (ECAP) for space applications
272.	Comparative computer base simulation studies on the evaluation of sensor fault detection and isolation in DC motor position servo system
273.	Development of nano particles of (Ba, Sr, Ca) TiO ₂ and their combinational ceramic oxides through a novel modified combustion process for microwave applications
274.	Development of TiAl based intermetallic intermetric composites for prospective space applications
275.	Development of high performance, impermeable membrane from halo butyl nano composites for space applications
276.	Characterization, optimization and fabrication of ferromagnetic shape memory alloys for electromagnetic actuator applications
277.	Space Education for school and communities
278.	Study and optimization of micro strip antenna system to receive satellite link from moving trains
279.	Flood risk modelling using satellite remote sensing data for optimal crop planning
280.	Analysis and design of wide band microstrip patch radiator
281.	Development of image and signal processing algorithms on leading DSP processors and development of special purpose FPGA for co-processing
282.	Investigation on multiband fractal antenna for satellite applications
283.	Development of remote sensing and GIS based approach for flood forecasting and warning for lower Tapi basin

284.	Design and development of 32-bit RISC processor based IP code for space application
285.	Theoretical studies of cosmic molecules a quantum chemical approach
286.	Parametric Processes in the radio wave heating of the ionosphere
287.	Numerical simulation to study solar wind turbulence and coronal heating
288.	Electro-hydro-dynamics in stability in the microgravity environment at the interface of the poorly conducting fluid bounded by rigid surface
289.	Study of environment at multiwave length properties of Active Galactic Nuclear (AGN) and Ultra Luminous X-ray(ULX)
290.	Spatial and temporal variability of total ozone - special reference to the Indian scenario during the Asian summers monsoon circulation
291.	Very low frequency (VLF) wave phenomena in magnetosphere ionosphere coupling
292.	Mathematical modeling of electromagnetic waves and stability in Chiral fluids with emphasis on developing efficient antenna and artificial organs
293.	Photometric and spectroscopic studies of galaxies in deep survey fields
294.	Physics and application of electron rich dusty plasmas
295.	Experimental investigation of SMA actuated flexible structure under piece wise output feedback control
296.	Development and characterization of carbon fiber/epoxy laminate filled with Carbon Nano Tubes (CNTs) for composite structure for LV and Satellites
297.	Novel contact and non contact based liquid level sensing using MEMS technology
298.	Photo Thermal Deflection (PTD) for non-destructive testing of space vehicle components
299.	Development and characterization of multilayer thermal barrier coatings of Hafnium carbide (HfC) and Silicon carbide SiC for aerospace application
300.	Development of new thermoset polyimides for PMR-15/BMBZ-15 replacement
301.	Morphodynamic study of the Diga coast of West Bengal for sustainable development and erosion mitigation using RS and GIS techniques
302.	Design optimization of multilayer micro strip antennas using artificial neural networks
303.	Efficient download transmission, error correction and encryption techniques for IRNSS data
304.	Application of RS techniques in assessment of landscape dynamics along the Indo Myanmar ranges
305.	Geospatial technology for mineral exploration program in Singhbhum shear zone of Jharkhand
306.	Study on the coherent structures of dust -ion-acoustic nebulons in interstellar space plasmas as well as on the surface of moons and rotating stars
307.	Study of the spectral and temporal properties of X-ray binaries

308.	Study of space weather and equatorial spread F(ESF) using total electron content (PEC) measurement through a network of global positions system (GPS) receivers
309.	A study of variability of post-sunset total electron content and scintillation near the crest of the equatorial anomaly in the Indian Zone
310.	ARM processor based control and monitoring system with remote interface for radar transmitter and T/R modules
311.	Establishing an antenna and RF laboratory
312.	Electro chemical deposition of aluminium lithium alloys for cryo and space application
313.	Analysis and evaluation of multilayer shear damped disco-elastic treatments of launch vehicle application
314.	Implementation of MPEG advanced audio coding decoder
315.	Morpho-tectonic evolution of the KOSI river basin, Bihar using RS data
316.	Active vibration control of laminated shells
317.	Study and development of image compression algorithms for satellite images
318.	Analysis of radiation from multi device high gain amplifier and interaction of active MMIC with package/housing - theory analysis and measurement
319.	Design and implementation of security attributes driven energy - efficient link layer architecture for wireless sensor networks
320.	Diurnal variation in hydrographic condition in the near shore regions off Honnavar, Central West Coast of India; implications on application of OCM for pollution dispersion studies
321.	Monitoring peri urbanization of Bangalore city - applying GIS and RS
322.	Designing of Spatial Light Modulators (SLMs) based on Nematic Liquid Crystals doped with non-mesogenic molecules (polymers, nano-particle and dyes)
323.	Design and development of a miniaturized Dual-Band/Tri Band antenna using Negative Refraction Index technique
324.	Electron scattering and atomic molecular processes in planetary and outer space environments: theoretical investigations
325.	Lower Atmosphere-Mesosphere Thermosphere/Ionosphere coupling studies using DWR data over Sriharikota, MST radar data over Gadanki and geomagnetic data from Indian network stations
326.	Study of ionospheric behaviour during total solar eclipse of July 2009 using the characteristics of Very Low Frequency (VLF) signals
327.	A theoretical and spectroscopic study of the mechanism of formation of prebiotic molecules and amino acids in the interstellar medium
328.	Study of Chromospherically Active Stars (CAS)
329.	Propagation and near-earth manifestations of Solar Coronal Mass Ejections (CMEs)

330.	Developing analytic formulas for extinction spectra of the major interstellar dust components
331.	Modelling simulation and control of space robots
332.	Embedded fiber optic sensor based instrumentation system for structural health monitoring
333.	Strengthening of aluminium alloy 6061- Carbon Nanotubes Composites
334.	A critical investigation on effects of interleaving on de-lamination fracture toughness and fuel permeability under extreme thermal stresses and low velocity impact conditions
335.	Impact of land use/land cover changes on the hydrologic regime in Western Ghats – A case study in Netravathi basin, using RS and GIS
336.	Design feasibility study and realization of a single directional antenna for L & S bands
337.	Optical cluster detection over high resolution satellite imagery and its applications
338.	Information extraction from multipolar radar data
339.	Analysis of micro strip radiator using particle swarm optimization technique
340.	Multi-criteria spatial system for evaluating environmental impacts of land use change in Urban and peri-urban limits using remote sensing and GIS
341.	Study of Radar Bright Band Height
342.	Spatial characterization studies of clear and fracture pattern in coal formations from Godavari Valley coal basin to evaluate the zones of coal bed methane migration and accumulation using RS & field studies
343.	Predicting flood inundation using RS and GIS following: A case study of North Bengal
344.	Modeling of raindrop - size distribution and Attenuation at SHF/EHF band for Indian regions
345.	Earthquake damage scenario analysis for Chennai city using remote sensing and GIS techniques
346.	Analysis and development of matched feed for offset parabolic antenna system
347.	Investigations on the role of aerosol, cloud and water vapor on the precipitation characteristics of Indian Summer Monsoon
348.	Measuring fundamental properties of compact objects and underlying accretion process
349.	Technique Development (Training & Genetic Algorithm methods) for improved satellite rainfall estimation over India
350.	Computational fluid dynamics analysis of ejector - diffuser system used for testing of rocket engines in low pressure environment
351.	Design and analysis of light weight 5-axis robotic manipulator with indexing type end effector

352.	Development of a computational tool for the analysis of hypersonic flow using Direct Simulation Monte Carlo (DSMC) method
353.	Study of flow field inside air intake with flow control
354.	Development of electro catalysts for PEM water Electrolyser for production of pure hydrogen and oxygen
355.	Development of stable Pt and Ni doped nanostructured ternary semiconductor catalysts for Solar hydrogen production by water splitting
356.	Study of parametric sensitivity of water permeation in Fuel Cell Proton Exchange Membranes
357.	Automated disposition of weld radiographs based on given specification and performance enhancement of the existing developed system
358.	Evaluation of Ti-15-3 Beta Titanium alloy for high strength fasteners for space applications
359.	Study of Chaos and its applications in communication: implementation using DSP Processor
360.	Feasibility studies on biological reduction of ammonium perchlorate from APEP effluent using a Perchlorate reducing microbial culture
361.	Development of Advanced Texture classifier for remotely sensed data using photometric stereo-A case study of Alagar Hills, Madurai District
362.	Friction Stir welding (FSW) of Aluminium Alloy used in space applications (6061 T6, 2195 & 7050)
363.	Analysis of positioning errors in GPS ground control surveys from cognitive psychology perspective - An intervention to reduce such errors & improve accuracy
364.	Development of advanced nano ZnO sensors for atmospheric and environmental monitoring
365.	Satellite based assessment of fire severity and validation in Uttarakhand
366.	Design and demonstration of a set of algorithm for high reliability wireless data acquisition and control
367.	Development of advanced fractional transform based algorithm for satellite image compression, encryption, digital watermarking and image matching applications
368.	Design and Analysis of Frequency Selective Surface at Ka/Ku Band for Reflection and S Band for Transmission
369.	CDMA code design, link level simulation and interference analysis for IRNSS based SatNav receivers
370.	Implications of satellite imagery on cultural heritage resource management
371.	Atmospheric Boundary Layer (ABL) & Cloud characteristics and monitoring of aerosol over Cochin
372.	Waves & instabilities in Space Plasmas
373.	Study of correlated Ultra-violet and X-ray Emission from X-ray Binaries
374.	Development of cloud cover information over the Indian region using geostationary satellite INSAT/Kalpana/METEOSAT cloud image data
375.	Study of the Interstellar processes leading to the deuterium enrichment
376.	Interaction of electromagnetic wave with high energetic plasma in Uranus

377.	Surface measurements of atmospheric radioactivity and its influence on electrical conductivity of earth's atmosphere
378.	Studies on the dynamics of the upper atmosphere over low latitude by Global Positioning System (GPS) data.
379.	Development of prototype MPD Thruster
380.	Design and prototype model development of directional conical coverage choke ring antenna for RF and multipath mitigation
381.	Development of Hydroxyl Ammonium Nitrate (HAN) monopropellant system
382.	Thermal response of sandwich honeycomb panels under transient heating condition (theoretical analysis)
383.	Heat flux estimation using transient temperature measurements
384.	Nanomechanical characterization of carbon carbon composites
385.	Hardware implementation of image enhancement using wavel/Retinex algorithms
386.	Panchromatic images, image segmentation using level sets, active contour models
387.	Spatio-Temporal monitoring of soil moisture dynamics and crop growth
388.	Intelligent satellite image retrieval and analysis based on ontology approach
389.	Classification of forest types and estimation of tree heights from Space Borne Polarimetric SAR data
390.	AWiFS based Spectral Biomass Model for Tiruvannamalai District
391.	Development of algorithms for Narrow Band Interference in IRNSS received signal
392.	GIS Based early warning Landslide susceptibility model using data mining classification approach
393.	High resolution Indian Ocean state estimation
394.	Design, development and hardware implementation of BPSK, QPSK and other modulation schemes as part of Software Defined Radio (SDR)Cognitive Radio (CR), for use in SATCOM terminals
395.	Radio Frequency (RF) Local Area Network (LAN) for Satellite
396.	Feasibility studies on enhancing detector efficiency with structured plasmonic films
397.	Dual blind detection robust watermarking for multimedia security
398.	Study of the biodiversity of Kodachadri hill range in Mookambika Wild Life Sanctuary
399.	Development of approaches for geometric, radiometric and atmospheric correction of remote sensing data products for multi-date data analysis
400.	Grid based application development for satellite image processing
401.	3D Reconstruction and software development for city model generation from satellite images

402.	Production of hydrophobic nano silica from rice husk/commercial grade precipitated silica for reinforcement of rocket insulation rubber and thermal protection of reusable launch vehicles
403.	Wavelet based image compression/decompression with pipelined architecture on FPGA
404.	Development of image processing method for assessing content of Trees Outside Forests (TOP) using IRS high Resolution Satellite images
405.	Condition monitoring and health assessment for bearings of cryogenic engine turbo pump
406.	Design and simulation of a new energy efficient ML-MAC wireless sensor protocol
407.	Analysis of dielectric resonator antenna array
408.	Development of bulk heterojunction solar cell based on nanostructured conducting polymer inorganic hybrid composites for harnessing broad band solar spectrum
409.	Polymerization of Biomolecules on Metal Oxide Surfaces Implication in Origin of Life
410.	Elliptic Curve Cryptography
411.	Energy dependence of the X-ray variability of neutron star and black hold binaries
412.	Study and simulation of landing dynamics of a lunar soft Lander
413.	Whole field strain measurement using Digital Reflection Photo elasticity
414.	Satellite Radar and Lidar based studies on vertical coupling of atmospheric dynamics and ionospheric electrodynamics
415.	VHDL implementation of efficient Trelli's coded spatial modulation scheme for MIMO communication
416.	Study of the dynamical processes in the Solar Atmosphere
417.	Dimensionality reduction of Hyperspectral remote sensing data
418.	Robust Video Streaming using H.264 Scalable Video Coding over Mobile Broadband Networks
419.	Design and development of low insertion loss narrow band surface acoustic wave (SAW) filters on Quartz substrate at VHF & UHF for satellite communication
420.	Simulation & analysis of system design requirements for ground to satellite & inter-satellite free space optical communication link
421.	Tin-based composites as High-capacity Lithium-Alloy anodes for Li-ion Batteries
422.	Feasibility studies on development of surface integrity and strength characteristics of rapid prototyped components to enable their direct applications in design and development activities of payload for spacecraft
423.	Development of dispersion process of high solid containing propellant slurry with Nano Al Particles

424.	Development of piezo electric actuator for micro positioning of space structures
425.	Study of pollution mechanisms in urban aquifers of Bruhat Bengaluru Mahanagara Palike (BBMP) area by integrated geophysical, Remote Sensing and GIS Techniques
426.	Wave modeling for North Indian Ocean using SAR and MIKE-21
427.	Synthesis, characterization and application of a novel metal complex photo catalyst system for carbon dioxide splitting
428.	Development of transparent and conductive ITO coating on flexible substrates for spacecraft application
429.	Particulate polymer composites for space applications: modeling and simulation of physical, mechanical and rheological properties
430.	Design and Development of Spatio Temporal Data Mining Techniques and Software Framework for Earth Observation Data
431.	Stability and Chaos in Photo gravitational N-body problem with Solar Wind Drag
432.	Ontology-based semantic annotation generation and retrieval of image using multiple sub ontologies
433.	Design of Radiation Hardened by Design (RHBD) standard cell Library for 0.18 μm technology
434.	Assessment of the Zooplankton community structure and secondary productivity in the Chennai and Portonovo, Northern coast of Tamil Nadu
435.	Processing and characterization of dispersion strengthened precipitation hardenable aluminium alloys
436.	Rain Fade Mitigation for Ka Band Communication Satellites
437.	A CCD Photometric Study of some SU Uma stars
438.	Investigation on Lithium ion cell for design parameters/failure modes on fresh/cycled cell using Destructive Physical and Chemical Analysis (DPA/DCA) techniques
439.	Reliable and Secured Space Communication based on fundamental cut-sets and fundamental circuits in Graphs
440.	Development of early warning system for shallow landslides using rainfall thresholds
441.	Development of tools for hybrid-PolSAR data analysis and applications
442.	Study of different types of PN sequence for space communication application and implementation of these sequence generators using FPGA
443.	Electronically Stitched Large Format Cameras
444.	Development of nanostructured/amorphous Si Ge thermo-electric materials by high energy ball milling and spark plasma sintering
445.	Study of timing properties of few outstanding black hole candidates
446.	Studies related to the coronal heating and solar wind turbulence

447.	Probing Black Hole Environment with X-ray Binaries
448.	Non-Linear structures (evolution and effects) of oscillating plasma bubbles in various experimental conditions
449.	Evolutionary neurofuzzy rainfall prediction system
450.	Developing an Adaptive Neuro-Fuzzy Inference System (ANFIS) based CAD Tool for Designing a Corrugated Horn Antenna
451.	Development of Platinum based micro heaters/Micro Evaporation Sources (MES) for Space mechanism applications
452.	Development of ultra high temperature resistance polymeric nanocomposites for long distance space applications
453.	Graphene reinforced nano composite paint for corrosion protection against light alloys of aluminium and magnesium
454.	Development of thermoplastic elastomers for Liquid Cooling and Ventilation Garment (LCVG) of space suits
455.	Optimization of hot workability and control of microstructure in aerospace grade titanium alloys like Ti-3Al-2Sn (Half alloy), Ti-5Al-2.5 Sn (Alpha Ti), Ti-15-3-3-3 (Ti-15V-3Cr-3Sn-3Al, beta Ti)
456.	Ku/Ka band channel modeling for SATCOM links over Indian Region
457.	Growth and characterization of pure & substituted langasite crystals for development of high temperature SAW devices suitable for space applications
458.	Multi frequency microwave scintillation studies with specific emphasis to navigation over the Indian Longitudes
459.	MST Radar signal processing using empirical mode decomposition and Hilbert Huang Transform
460.	Photonic Microwave arbitrary waveform generation with adjustable chirp parameter based on remote sensing applications
461.	Mars Interplanetary Trajectory Design via Lagrangian Points in the Restricted Three-Body Problem
462.	Mathematical Modelling of Spectrum Sharing Techniques in Cognitive Radio Network
463.	Performance Evaluation of Automatic Registration and Resampling Techniques for IRS Imagery
464.	Development of Ultra Fine Grained Super High Strength Aluminium Alloys (7XXX series) by Cryo Rolling
465.	Generation of input data/parameters through NDT/DT techniques for use in performance prediction model of Lithium ion batteries
466.	Experimental investigations on work hardening during turning of Inconel-718
467.	Synthesis and characterization of conducting polymer/nanostructured WO ₃ hybrid for low temperature NO _x detection
468.	Coking in Semi-cryogenic Engines: Studies on Predicting the onset of coking in a Heated Tube with Isrosene/Kerosene

469.	Multi-wavelength temporal study of Blazar flares : A probe to Understand the jet physics
470.	Development of customized software for the Data Management related to integration of Cryo Upper Stage (CUS-SOFT)
471.	Development of Reinforced Aerated Blocks with Innovative Composite Ingredients as Compression Members for Structural Applications with Stringent Design Specifications
472.	Habitat Suitability and Corridor analysis for Sloth Bear in Gujarat using Remote Sensing and Ecological Modeling
473.	Oceanic pollution and other ocean phenomenon monitoring using feature extraction from multi-polarized SAR data
474.	Conformal array synthesis using evolutionary algorithms for the generation of a shape beam antenna for data transmission
475.	Development of passive damping surface coating for advanced materials based structural system using PZT (Piezo) powder
476.	Extended Depth of Field imaging using Coded Camera Architecture