1. Role of nonlinear signal processing techniques in geophysical data analysis
2. Application of AI/ML techniques in Oil and Gas sector
3. Magnetotelluric investigations in active tectonic zones in India
4. Mineral carbonation of CO2 for potential sequestration in basalts
5. Storage site characterization and reservoir simulation in CO2 enhanced oil recovery
6. Geomechanical risk assessment in geological carbon storage in saline aquifers
7. Geomechanical constraints in CO2 enhanced CBM recovery
8. Deep learning inversion of Electrical and Electromagnetic data
9. 3D Magnetization vector inversion of Magnetic data for mineral exploration
10. Joint inverse modelling through machine learning-based algorithms
11. Understanding of SP, DC and IP signatures in the critical zone through long-term monitoring
12. An Integrated petrophysical and rock physics modelling of carbonate reservoirs of Western Offshore basin.
13. Application of machine learning tools for modelling of geophysical data
14. Magnetic field modelling of satellite and aeromagnetic data
15. Modelling and interpretation of planetary magnetic fields
16. High-resolution passive seismic imaging method development for a mineral exploration
17. 3D crustal modelling of the Indian plate using Bayesian inversion approach
18. Global-scale tomography using a very long period seismic data
19. Crustal structure beneath Himalayan and Tibetan plateau
20. Lithospheric studies from multidisciplinary geophysical dataset using Bayesian inversion approach
21. Ambient noise tomography of the Indian continent
22. Seismic imaging of the crust and upper mantle beneath the Aravalli Delhi fold belt
23. Seismic tomography of the Aravalli Delhi fold belt
24. Palaeoecological study of vertebrate fossils from Mesozoic of Kachchh
25. An integrated study of gold-hosting Gadag greenstone belt, western Dharwar Craton, southern India
26. Genesis of gold mineralization in the Gadwal greenstone belt, eastern Dharwar Craton, southern India
27. Cobalt mineralization in the Cu-Co deposits in the western Dharwar Craton, southern India.
28. Determination of ice thickness of Satopanth glacier with active and passive seismic methods.
29. Sub-basalt imaging and full waveform inversion of long-offset seismic data from the Kutch-Saurashtra basin.
30. Automated stacking velocity analysis using deep learning.
32. Petrophysical Analysis of Hydrocarbon Bearing Low Resistive Reservoirs of Western Offshore Basin.
33. Noise removal and target oriented imaging of land data.
34. Constraining the Aptian-Turonian palaeoenvironment in peninsular India and southern Alberta (Canada) based on foraminifera and geochemical proxies.
35. Ichno-Sedimentological Evaluation of the Late Jurassic Jhuran Formation.
37. Structural Geology of Mizoram.
38. Tectonothermal evolution of the Khammam schist belt and adjacent region: implications for accretionary tectonics in southeastern India.
40. Understanding the crustal structure from satellite altimetry data.