Laboratory Session of Advanced Remote Sensing Course
Topic: **Introduction to Moderate Resolution Imaging Spectroradiometer (MODIS)**
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1. Objectives
The students will learn basic data characteristics of Terra/Aqua MODIS products (Level 1B and level 2), also about basic data processing such as geometric correction of Level 1B and level 2 data using ENVI software.

2. Demonstration:
In this Laboratory Session, we will learn how to:

2.1 Open and Visualize MODIS data in Level 1B
2.2 Understand the data structure and data format of MODIS data
2.3 Visualize the MODIS data geophysical parameters
    2.3.1 Radiance
    2.3.2 Reflectance
    2.3.3 Brightness Temperature
2.4 Understand MODIS Scientific Data Sets (SDS)
2.5 Generate geometric-corrected MODIS L1B image.
2.6 Generate a map of simple MODIS product - Normalized Difference Vegetation Index (NDVI) using geometric-corrected MODIS L1B image obtained in Section 2.5 and apply map layout, map features and political boundaries to the map.

3. MODIS Data:
The data to be used for this practical session are Terra and Aqua MODIS in Level 1B (AIT and NASA data) and Level2 data (Land Surface Temperature (MOD/MYD11) and Corrected Reflectance (MOD09/MYD09) products from NASA)

The data can be found in the server of the laboratory. Vector data for political boundaries, coastlines and rivers are also available in the Server.

4. Software:
Software to be used is ENVI 4.x (for example, ENVI 4.5)

5. Practice
Generate the following maps using available Terra and Aqua MODIS data in the MODIS Sample Data folder.

1. Vegetation Index (NDVI) map product,
2. Land Surface Temperature (LST) map product and
3. Corrected reflectance map product