

DAILY ASSESSMENT FORMAT

Date:	01 JULY 2020	Name:	PAVITHRAN S
Course:	SATELLITE PHOTOGRAMMETRY AND ITS APPLICATION	USN:	4AL17EC068
Topic:	CONCEPTS OF SATELLITE PHOTOGRAMMETRY	Semester & Section:	6 TH B
Github Repository:	Pavithran		

FORENOON SESSION DETAILS

Image of session

The screenshot displays the E-CLASS interface during a live session. The top navigation bar includes the E-CLASS logo and the text 'ELECTRONIC COLLABORATIVE LEARNING AND KNOWLEDGE SHARING SYSTEM'. The left sidebar contains navigation options: Live Session, Offline Session, Study Material, Attendance Status, Course Guidelines, and Feedback. The main content area shows a presentation slide titled 'Rational Function Model' by Dr. Hina Pande, presented by the Indian Institute of Remote Sensing, Dehradun. The slide content includes:

- Rational Function Model**
 - a. Generic model
 - b. Uses ratio of two polynomial functions to compute the x and y coordinate in image.
- >The Rational Function Model (RFM) is an empirical mathematical model that has been developed to approximate the relationship between the image and the object spaces.
- >Due to the complexity of the rigorous sensor models used to orient satellite imagery, rational polynomial coefficients (RPCs) are supplied that can be processed by commercial photogrammetry applications
- >RFM relates object point coordinates (X, Y, Z) to image pixel coordinates (l, s) or vice versa, as physical sensor models, but in the form of rational functions that are ratios of polynomials.
- >RPCs are calculated from a satellite's sensor model in order to relate an image's horizontal and vertical orientation to the Earth surface, for example latitude, longitude, and surface elevation.
- >RPCs are included as part of a deliverable for use in orthorectification in the event a user needs to update the imagery using a more recent or high resolution DEM.
- >Also, if the initial accuracy of the imagery does not meet project requirements, RPCs can be updated using supplementary ground control points.

The right sidebar shows a list of participants: Debasmita Roy, DONDAPATI SREE, SUJAY D, SUYASH DEEP RAJPUT, and Anindya Mondal. A 'Live Now' button is visible. The bottom of the screenshot shows the Windows taskbar with the time 04:45 PM on 01-07-2020.

Report – Report can be typed or hand written for up to two pages.

BB

01-07-2020

Hardware components of Digital Photogrammetry

work flow

std req

- Handling images display
- Measurement
- Determination of orientation
- Transformation
- Image processing functions
- Digital Rectification
- Visualization

Few examples:

Commercial off the shelf Photogrammetry software

- Leica Geosystem
- PLI Geomatics
- Intergraph
- BAE systems
- INPHO

Open source:

- ILWIS
- E-phot
- DLSIM

Satellites

Cartosat-1

IRS 1C/D

TME on Chandrayaan

IKONOS

Worldview

Pleiades

EROS-A

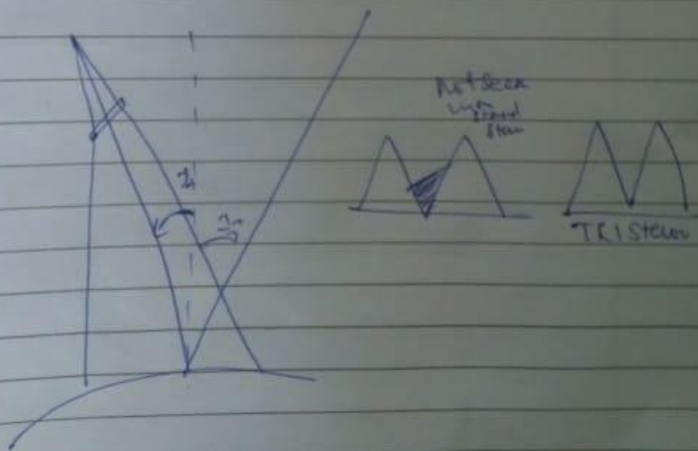
ALOS

MOMIS-02

SPOT

Terrestrial ASTER

Inclination angle of a sensor



Coverage track:

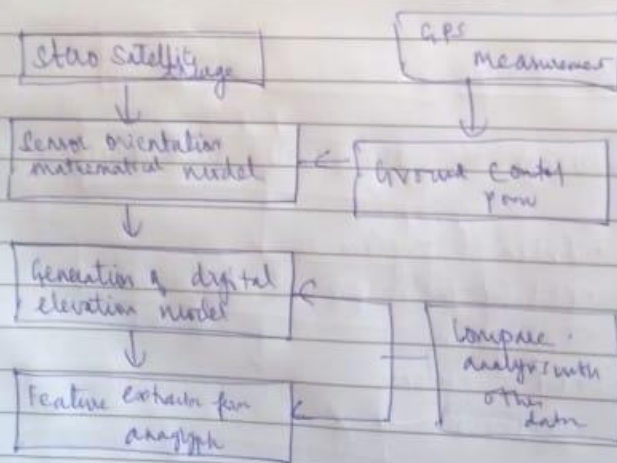
The point of the incoming sensor is over the off-axis in the track direction.

Satellite Photogrammetry:

Advantages of Imaging from space:

- Synoptic view
- Large swaths, repeatability
- Constant scale
- Negligible internal distortion
- Formalities associated with aerial photography and flight arrangement are avoided here

* General work flow



* Stereo Imagery and topographic mapping

- Along the track image technique
- Across the track image technique