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Date:- 01-JULY-2020 Sindhu. S
Course:- (61) Satellite photogrammetry and it's Application AALIBECO49 4th Sem, 'A' Sec.

- Branches of photogrammetry.

→ Based on platform:-
1. Ground Based
2. UAV /drone based
3. Aerial photogrammetry
4. Satellite photogrammetry

→ Advantages of imaging from space
1. Synoptic View
2. Large swath, repeatwity
3. Stable radiometry.
4. Negligible internal distortions

→ stereo imaging & topographic mapping.
Stereo satellite images are captured by the same satellite from different orbits on different dates.

- optimum base to height ratio is 0.6 to 1.0
- This angle defines the degree of off-nadir viewing when the scene was recorded
- Inclination is the angle b/w a vertical on the ground at the centre of the scene and a light ray from the exposure station.

- orbit characteristics.
  - Sun synchronous orbit
  - Descending node.
  - Repeatability cycle
  - Revisit
  - orbital period
  - path overlap
  - Scene definition.

* Modeling Satellite sensor orientation.
  - General Mathematical models for satellite sensor modelling are used.

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1. Rotational function Model (RFM)
2. Direct linear Transformation (DLT)
3. 3D polynomial model
4. 3D affine model
5. Rigorous @ physical sensor model.

- Exterior orientation :- Comprises the position and attitude.
  → Exterior orientation parameters are;

1. perspective centre of the centre scan line
2. change of perspective centers along the orbit.
3. Rotation of the center scan lines; roll, pitch and yaw.
4. Change of the angles along the orbit.

- projection center coordinates (X0, Y0, Z0) and the rotations around the 3-axis (roll, pitch, and yaw).