Phorogrammetry: An Introduction

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Lecture Content

- Definition
- Basic Categories
- Types of Photogrammetry
- Area of Applications

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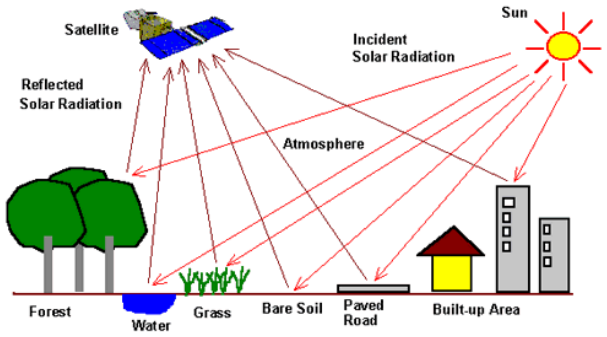
Introduction

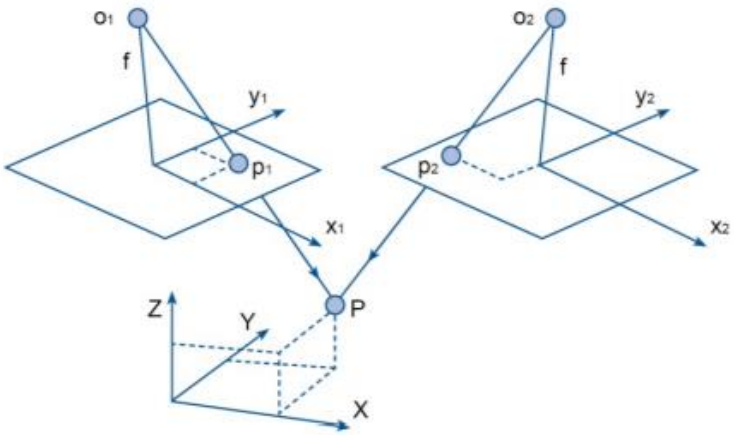
- **<u>Definition of Photogrammetry</u>**: the art, science, and technology of obtaining reliable information about physical objects

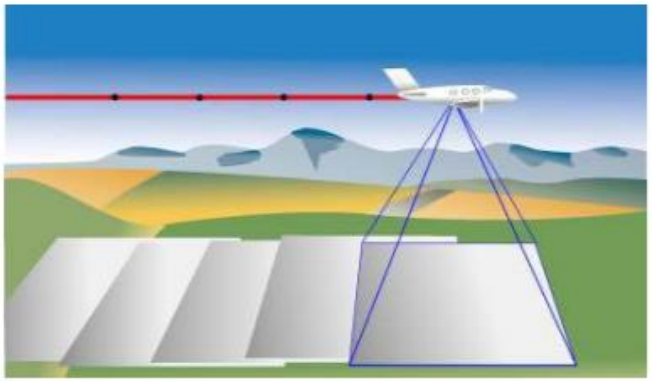


- **Energy reflected from the Earth**
- Resemblance of photographs from camera
- Different materials (water, soil, etc.) reflect waves in different ways

Principles of photogrammet

Conjugate points





https://ez-pdh.com/aerial-photogrammetry-help/

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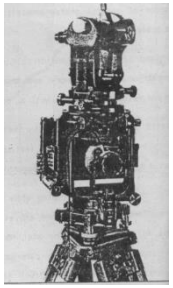
Classification of photogrammetry

Close Range photogrammetry

aerial photogrammetry

Satellite photogrammetry



Types of Photographs

- Terrestrial
  - Vertical
    - Truly vertical
    - Near vertical
- Aerial
  - Tilted
- Extra-Terrestrial
  - Oblique
    - Low
    - High

https://studylib.net/doc/5707048/lecture-7-photogrametry

Types of Photographs

- Aerial
- Terrestrial
- Extra-Terrestrial–
  Metrical photogrammetry

Photo interpretation

Orthographic projection

Aerial Triangulation

Perspective projection

Uses: Aerial photos

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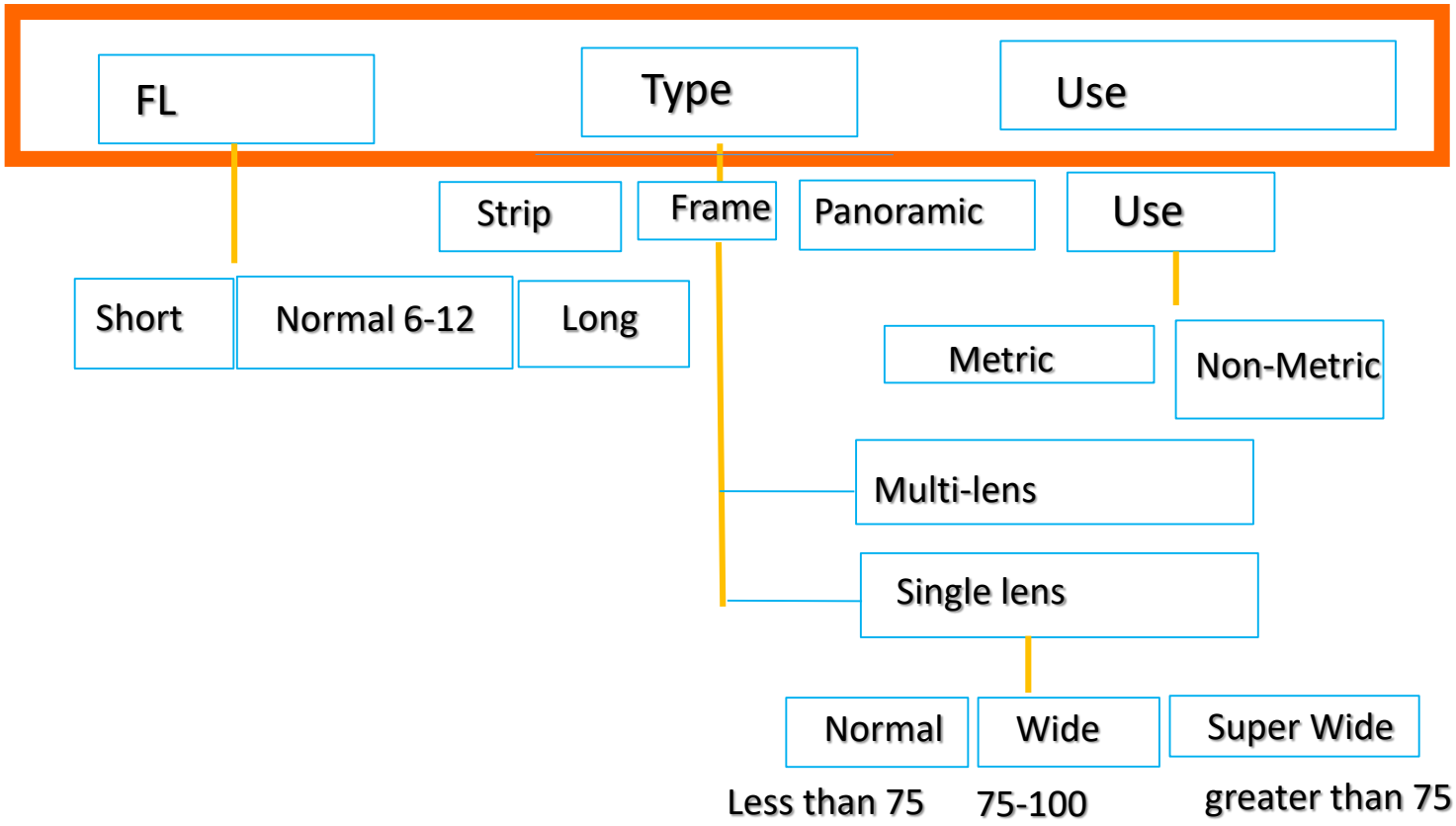
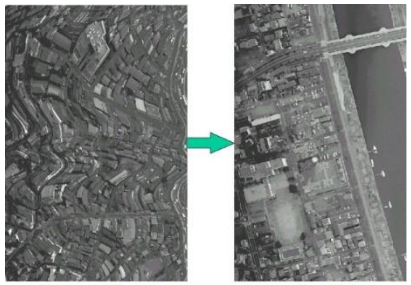
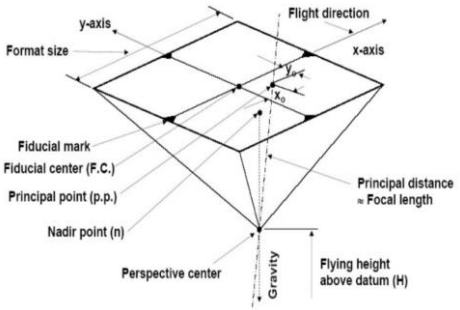
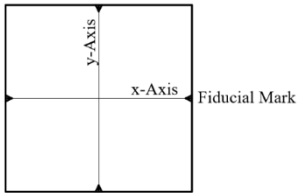
Classification of aerial cameras



*Aerial Camera (**Metric cameras**)*





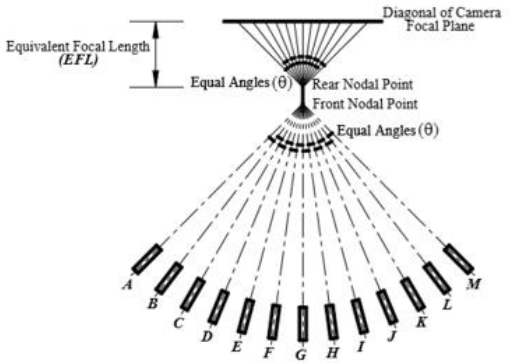


$$\frac{v}{V} = \frac{f}{H}$$

-Fiducial Marks

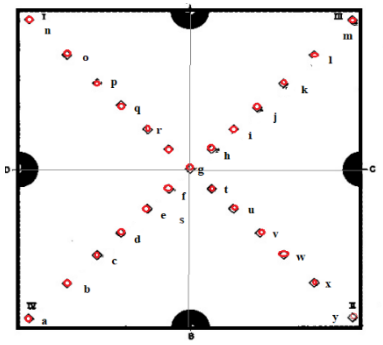
- IMC
- lens
- Shutter
- Daiphram
- Filter

Camera Calibration



- **EFL = (gf+gh+gs+gt)/4tanθ**

- **Average calculated distance =**
- **EFL * tan θ**



- **CFL = EFL – 0.5{|max.(-ve)| -|max.(+ve)||}**