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What is the *Geospatial Reference Book*?

The Geospatial Reference Book consists of two parts—Academic and Discipline. It is a reference book designed to clarify words most commonly encountered by students during the study of Geospatial courses. An online version with the facility to recommend terms, definitions and alternatives will (hopefully) become available shortly.

Expected desirable outcomes

For Educators:

- ❖ To become aware of the terminology used in other disciplines associated with the Geospatial domain
- ❖ To provide a standard set of terminology in order to reduce the confusion amongst students through the use of jargon
- ❖ To clarify and standardize terminology relating to assessments

For Students:

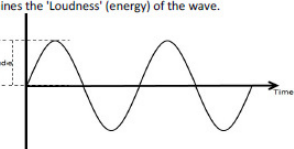
- ❖ To have a readily available reference to terminology used in Geospatial education
- ❖ To clarify assessment related terms in order to better understand the teacher's expectation for a certain type of assessment

Design of the *Geospatial Reference Book*

The *Geospatial Reference Book* is designed with clarification of common words in mind. Each term is given in English and its Traditional and Simplified Chinese equivalents. The term is described and sometimes illustrated. Alternative words, in English, are given.

The diagram illustrates a page from the 'Geospatial Reference Book' with the following content and annotations:

- Page Header:** GEOSPATIAL REFERENCE BOOK | PHYSICS
- Annotations:**
 - 'English words/phrases' points to the English column.
 - 'Chinese equivalent (traditional & simplified Chinese)' points to the Chinese columns.
 - 'Topic' points to the 'PHYSICS' header.
 - 'Descriptions, sometimes illustrated; may contain synonyms. Students are encouraged to make annotations' points to the descriptive text and the graph.
- Table Content:**

Acceleration	加速度	Rate of change of velocity over time. $a = \frac{\Delta v}{\Delta t}$ a = acceleration Δv = change in velocity (displacement) Δt = change in time
Acoustic Wave	声波/聲波	Longitudinal waves travelling with the speed of sound (dependent on medium) with properties of diffraction, reflection and interference.
Amplitude	波幅	Alternative: Displacement Wave Property. Determines the 'Loudness' (energy) of the wave. 
Attenuation	減滅	Gradual loss of energy due to medium of transmission.
Bandwidth	頻寬/頻寬	Alternative: Analogue Bandwidth, Frequency Bandwidth, Radio Bandwidth Range of frequency in a given band.
Carrier Wave	載波通信/ 載波通信	Electromagnetic wave modulated in frequency and/or amplitude to carry a signal.
Conductivity	電導率/ 電導率	The degree of which a material can conduct electricity.
Current	電流/電流	Alternative: Electric Current Rate of flow of charge at a certain point in the circuit.
Dielectric Constant	介電常數/ 介電常數	Quantifying the ability for a material to store electrical (electromagnetic) energy.
Dielectric Material	介電材料/ 介電材料	Alternative: Dielectric Material that does not conduct electricity (electric insulator) but can sustain an electric field (store electrical energy).
- Page Footer:** PAGE | 1

The book contains two parts:

Academic: contains words related to studying and assessment. It aims to build an understanding between students and teachers, to clarify possible misconceptions of expectations of words and/or grades.

Discipline: contains words related to the various disciplines found in the Geospatial field and most commonly encountered by students. This section is categorized as follows:

- ❖ **Acronyms**—An alphabetical list of commonly encountered acronyms
- ❖ **Analysis**—An alphabetical list of words/phrases associated with data analysis and data processing
- ❖ **Data**—An alphabetical list of words/phrases associated with data type and data characteristics
- ❖ **Geography**—An alphabetical list words/phrases associated with the geographic discipline but used in disciplines of the Geospatial field

- ❖ *GIS/GIT*—An alphabetical list words/phrases associated with GIS & GIT, may contain words associated with computing, programming and IT
- ❖ *GNSS*—An alphabetical list words/phrases associated with satellite positioning system, may contain some physics concepts only associated with satellite positioning
- ❖ *Hydrography*—An alphabetical list words/phrases associated with hydrographic surveying and nautical navigation
- ❖ *Land*—An alphabetical list words/phrases associated with lands surveying, land administration, direction and coordinate systems
- ❖ *Mathematics*—An alphabetical list words/phrases and mathematical theories used in Geospatial field
- ❖ *Miscellany*—An alphabetical list words/phrases from other disciplines most commonly encountered in Geospatial field (e.g., building and construction, planning, law, etc...)
- ❖ *Physics*—An alphabetical list words/phrases and physics concepts surrounding Geospatial field
- ❖ *Remote Sensing & Photogrammetry*—An alphabetical list words/phrases related to remote sensing and photogrammetry, may contain some physics concepts
- ❖ *Underground Utility*—An alphabetical list words/phrases associated with underground utility surveying and management
- ❖ *Visualization*—An alphabetical list words/phrases associated with cartography, mapping, imaging and map projection

How to use the *Geospatial Reference Book*

The *Geospatial Reference Book* is to be used as a reference guide for both educators and students. Students should be encouraged to make annotations to better their own understanding and to build a better foundation of knowledge for the discipline. They should be asked to share their annotations with classmates and teachers and submit additional terms to the online resource.

Suggested applications

- As part of an online activity: using words from the Reference Book to develop a one-of-a-kind, subject-specific, student-owned online reference to be hosted on the subject web page
- As part of exploration: picking a random page/number and have students comment on how a certain idea/word can relate to the subject/topic being studied

Share your Ideas

Send us your ideas and share with fellow educators on:

Geo-spatial Education Platform: <http://www.polyu.edu.hk/proj/gef/>

Email: lsgj.gef@polyu.edu.hk