CASA0023 Weekly Diary

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Welcome

This is my weekly study notes for the CASA0023 course. My undergraduate major was Geographic Information Science, and my thesis focused on vegetation extraction from remote sensing imagery. Therefore, some of my personal reflections may be related to my undergraduate background.

1 Introduction

1.1 Summary

Remote sensing is a science that uses electromagnetic radiation as a medium to identify surface features and apply surface information to relevant fields (Navalgund, Jayaraman, and Roy 2007). Various sensors function like human eyes that can perceive a broader range of spectral bands, providing richer and more extensive ground information, thus laying the foundation for further analysis.

1.1.1 Active and Passive Remote Sensing

Figure 1.1 and Table 1.1 demonstate the differences between active and passive remote sensing in terms of working principles, advantages and applications.

Table 1.1: Comparison of Active and Passive Remote Sensing

Category	Active Remote Sensing	Passive Remote Sensing
Energy Source	Sensor-generated energy	Relies on surface radiation
Advantages	• Independent of surface radiation, unaffected by lighting conditions. • Can penetrate clouds, vegetation, etc.	• Can cover large areas simultaneously. • High revisit rate,capable of providing time-series data
Applications	Suitable for all-time, all-weather, and extreme environment measurements	Suitable for large-scale continuous observation

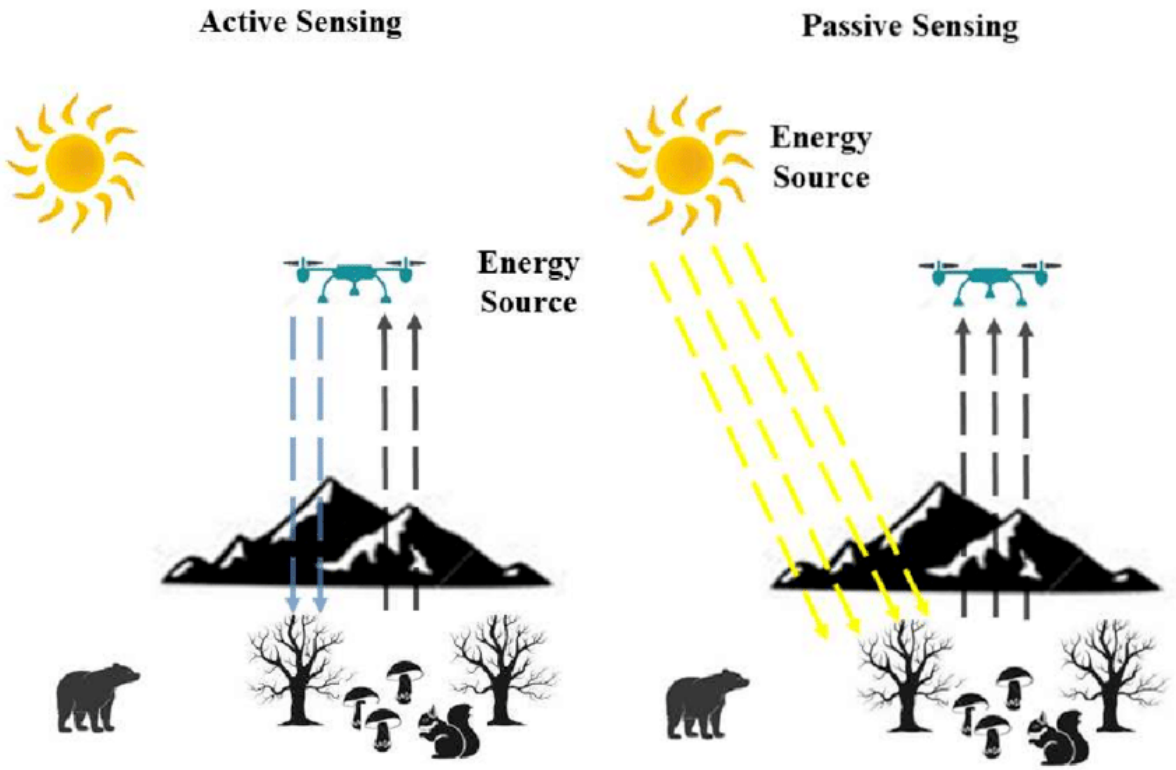

Figure 1.1: Principle Differences Between Active and Passive Remote Sensing

2 Summary

In summary, this book has no content whatsoever.

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References

Navalgund, Ranganath R., V. Jayaraman, and P. S. Roy. 2007. "Remote Sensing Applications: An Overview." *Current Science* 93 (12): 1747–66. http://www.jstor.org/stable/24102069.