

SIOG 237 - Space Geodesy - Fialko [WI25] Jump to Today Edit

Space Geodesy Seminar - SIOG 237

The main objectives of this seminar course are to learn the basic principles of InSAR, develop practical understanding of the data processing algorithms, and follow recent topics and advances in the literature.

Instructor

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Seminar course, S/U grade.

Time: Fri, 1:00-1:50 PM

SYLLABUS

Date	Topic	Reading	Discussion Leader(s)
10 JAN	Space Geodesy - Intro	notes	Yuri
17 JAN	Principles of radar	SAR1.pdf ↓	Yuri
24 JAN	Synthetic Aperture Radar (SAR) - image formation	notes notes	Yuri
31 JAN	SAR interferometry	notes	Yuri
07 FEB	InSAR - phase filtering, unwrapping, geocoding	notes notes	Yuri
14 FEB	Hu et al. (2014). Resolving three-dimensional surface displacements from InSAR measurements: A review. Earth-Science Reviews, 133, 1-17.	Hu_14.pdf ↓	TBD
21 FEB	Yunjun et al, F. (2019). Small baseline InSAR time series analysis: Unwrapping error correction and noise reduction. Computers & Geosciences, 133, 104331.	Yunjun_19.pdf ↓	TBD
28 FEB	Maghsoudi et al. (2022). Characterizing and correcting phase biases in short-term, multilooked interferograms. Remote Sensing of Environment, 275, 113022.	Maghsoudi_22.pdf ↓	TBD
07 MAR	Zheng et al. (2022). On closure phase and systematic bias in multilooked SAR interferometry. IEEE Transactions on Geoscience and Remote Sensing, 60, 1-11.	Zheng_22.pdf ↓	TBD
14 MAR	Wig et al. (2024). Fine-Resolution Measurement of Soil Moisture from Cumulative InSAR Closure Phase. IEEE Transactions on Geoscience and Remote Sensing.	Wig_2024.pdf ↓	Xiaoyu Jonatan

Suggested books:

Curlander, John C.. Synthetic aperture radar : systems and signal processing/, John C. Curlander, Robert N. McDonough. New York : Wiley, c1991. xvii, 647 p.: ill. ; 24 cm. Series title: Wiley series in remote sensing Language: EnglishUCSD S & E TK6592.S95 C87 1991

Elachi, C., Introduction to the Physics and Techniques of Remote Sensing, .New York: Wiley, c1987. xvii, 413 p.

Ghiglia, Dennis C.. Two-dimensional phase unwrapping : theory, algorithms,and software /, Dennis C. Ghiglia, Mark D. Pritt. New York : Wiley, c1998. xiv,493 p. : ill. ; 25 cm.

Course Summary:

Date	Details	Due
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Course Status

✔ Published ▼

- Import Existing Content
- Add TAs
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January 2025							
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Course assignments are not weighted.