

# Space Geodesy Seminar - SIO 239

<http://igppweb.ucsd.edu/~fialko/insar>

## Instructors

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Seminar class

Fri 11-11:50 am, Board room

[class@ucsd.edu](mailto:class@ucsd.edu)

**OBJECTIVES:** The objectives of this seminar course are to learn the basics of GPS and InSAR, and apply both techniques to study deformation in various places of interest (Southern California and elsewhere). There will be field trips during which we will visit active faults and conduct campaign GPS surveys.

## SYLLABUS

Date	Topic	Reading	Discussion Leader
08 JAN	Organizational meeting		Yuri
15 JAN	GPS theory	<a href="#">notes</a> <a href="#">terminology</a>	
22 JAN	GPS data processing: GAMIT	<a href="#">notes</a>	Katia
29 JAN	GPS data processing: GLOBK	<a href="#">notes</a>	Katia
05 FEB	GPS data processing: TRACK	<a href="#">notes</a>	Katia
12 FEB	GPS applications: recent results	<a href="#">McGill et al., Kinematic modeling of fault slip rates using new geodetic velocities from a transect across the Pacific-North America plate boundary through the San Bernardino Mountains, California</a>	TBD
19 FEB	GPS applications: recent results	<a href="#">Wöppelmann and Marcos, Vertical land motion as a key to understanding sea level change and variability</a>	TBD

26 FEB	GPS applications: recent results	<a href="#">Schiffman et al., Seismic slip deficit in the Kashmir Himalaya from GPS observations</a>	TBD
04 MAR	GPS applications: recent results	<a href="#">Ding et al., Coseismic and Early Postseismic Deformation of the 5 January 2013 Mw 7.5 Craig Earthquake from Static and Kinematic GPS Solutions</a>	TBD
11 MAR	class projects	<a href="#">notes</a>	

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SIO 239 SUGGESTED BOOKS (some on reserve at SIO Library):

Bracewell, Ronald Newbold, 1921-. The Fourier transform and its applications, [by] Ron Bracewell. New York, McGraw-Hill [1965] viii, 381 p.illus. 23 cm. Series title: McGraw-Hill electrical and electronic engineering series UCSD Scripps QA403.5 .B7

Bendat, Julius S.. Random data : analysis and measurement procedures /, Julius S. Bendat, Allan G. Piersol. 2nd ed., rev. and expanded. New York:Wiley, c1986. xvii, 566 p. UCSD Scripps TA340 .B43 1986

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: English UCSD 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.

Computer-based exercises for signal processing using MATLAB 5 /, James H. McClellan ... [et al.] Upper Saddle River, N.J. : Prentice Hall, c1998. xii, 404 p. : ill.; 28 cm. Series title: The MATLAB curriculum series Related titles: Signal processing using MATLAB 5

Spotlight-mode synthetic aperture radar : a signal processing approach /, Charles V. Jakowatz, Jr. ... [et al.]. Boston : Kluwer Academic Publishers, c1996. 429 p. : ill. ; 24 cm. Language: English

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