Space Geodesy Seminar - SIOG 237

http://igppweb.ucsd.edu/~fialko/siog237.html

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.

Instructors

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David Sandwell; 1104 IGPP; dsandwell-at-ucsd.edu; Ph. 4-7109

Seminar course, S/U grade.

Time: Fri, 1:00-1:50 PM, Munk 303

class@ucsd.edu

SYLLABUS

Date	Topic	Reading	Discussion Leader
11 JAN	InSAR - Intro	notes notes	Yuri
18 JAN	SAR - image formation and observation modes	notes	Xiaohua
25 JAN	InSAR - phase	notes	Yuri
01 FEB	InSAR - phase unwrapping	notes	Dave
08 FEB	Pinel-Puyssegur B, Lasserre C, Benoit A, Jolivet R, Doin MP, Champenois J. A Simple Phase Unwrapping Errors Correction Algorithm Based on Phase Closure Analysis. InIGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium 2018 Jul 22 (pp. 2212-2215). IEEE.	(PDF)	TBD
15 FEB	Zhou, L., Chai, D., Xia, Y., Ma, P. and Lin, H., 2018. Interferometric synthetic aperture radar phase unwrapping based on sparse Markov random fields by graph cuts. Journal of Applied Remote Sensing, 12(1), p.015006.	(PDF)	TBD
22	Yu, H., Lan, Y., Lee, H. and Cao, N., 2018. 2-D Phase	(PDF)	

FEB	Unwrapping Using Minimum Infinity-Norm. IEEE Geoscience and Remote Sensing Letters, (99), pp.1-5.		TBD
01 MAR	Zebker, H.A., 2018, July. Insar Mission-Level Products on Demand-do we Need Range-Doppler?. In IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium (pp. 68-71). IEEE.	(PDF)	TBD
08 MAR	De Zan, F., Parizzi, A., Prats-Iraola, P. and Lopez-Dekker, P., 2014. A SAR interferometric model for soil moisture. IEEE Transactions on Geoscience and Remote Sensing, 52(1), pp.418-425.	(PDF)	TBD
15 MAR	Zwieback, S., Hensley, S. and Hajnsek, I., 2017. Soil moisture estimation using differential radar interferometry: Toward separating soil moisture and displacements. IEEE Transactions on Geoscience and Remote Sensing, 55(9), pp.5069-5083.	(PDF)	TBD

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.

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Last modified: Wed Jan 30 00:08:39 PST 2019