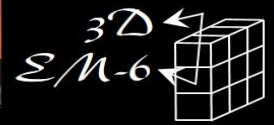


The 6th International Symposium in Three-Dimensional Electromagnetics

March 28-30, 2017, Berkeley, California, USA



Monday March 27

5:30-8:30 pm

Registration and Ice Breaker at the Bear's Lair, 2495 Bancroft Way, Berkeley, CA

Tuesday March 28

7:30-8:30

Registration

8:30 – 12:00

Session 1 - Developments in 3D Modeling and Inversion of Natural Source Data

12:00-1:30

Lunch

1:30-5:30

Session 2 - 3D Modeling, Inversion, and Interpretation of Natural Source Data

9:45-10:20, 3:10-3:45

Breaks and Posters

Wednesday March 29

8:30 – 12:00

Session 3 - Developments in Modeling Controlled Source Data

12:00-1:30

Lunch

1:30-5:30

Session 4 - Developments in Modeling and Inverting Controlled Source Data

9:45-10:20, 3:10-3:45

Breaks and Posters

7:00-10:30

Symposium Banquet - Revival Bar and Kitchen, 2102 Shattuck Ave, Berkeley, CA

Thursday March 30

8:30 – 12:00

Session 5 - Controlled Source Modeling and Inversion Studies

12:00-1:30

Lunch

1:30-5:30

Session 6 – Controlled Source Case Histories and Casing Studies

9:45-10:20, 3:10-3:45

Breaks and Posters

Symposium Corporate Sponsors

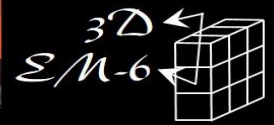


And 3DEM-6 friends

Cathy and Steve Constable, George Jiracek, and Mike Wilt.

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Session 1 : Developments in Modeling and Inverting Natural Source Data

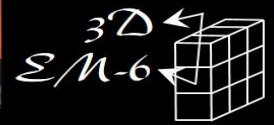
	Title	Authors
8:30-8:55	Welcome and opening Remarks	
8:55-9:20	Development of flexible object oriented MATLAB codes for 3D EM modeling	Gary D. Egbert and Maxim Smirnov, Maria Cherovatova
9:20-9:45	Three-dimensional meshless magnetotelluric modelling	Jan Wittke and Bülent Tezkan
9:45-10:20	Posters and break	
10:20-10:45	extrEMe-I: novel scalable multi-responses 3-D MT inverse solver	M. Kruglyakov and A. Kuvshinov
10:45-11:10	3-D inversion of magnetotelluric impedance tensor and magnetic transfer function data using tetrahedral grids	H. Jahandari and C. G. Farquharson
11:10-11:35	Modelling 3D anisotropic conductivity anomalies challenging 3D isotropic inversion	Andreas Junge
11:30-12:00	Discussion	

Session 2 : 3D Modeling, Inversion, and Interpretation of Natural Source Data

	Title	Authors
1:30-1:55	Three-dimensional conductivity structure of the Australian Victorian lithosphere	Jingming Duan, Karol Czarnota, Tristan Kemp, and Richard Chopping
1:55-2:20	Constrained 3D inversion of MT data with sparse and irregular station coverage: example from the Namibian passive margin	Ute Weckmann ,Naser Meqbel, and Oliver Ritter
2:20-2:45	Three-dimensional imaging of volcanic systems with magnetotellurics	Jared Peacock, Paul Bedrosian, G. J. Hill, E. Bowles-Martinez, Adam Schultz, R. Boodram, and G. Ryan
2:45-3:10	3D magnetotelluric imaging of basalt-covered sediments and fragmented basement of central Paraná Basin, SE Brazil	Ved P. Maurya, Sergio L. Fontes, Max A. Meju, Emanuele F. La Terra, Leonardo G. Miquelutti, David Taveira and Irineu Figueiredo
3:10-3:45	Posters and Break	
3:45-4:10	Assessment of EGS water injection by using MT 3D analysis and reservoir simulator STAR	Hideaki Hase, Tatsuya Sato, Takashi Okabe, Toshihiro Uchida, Shinichi Takakura, Yasuyuki Abe and Takayuki Ohishi
4:10-4:35	Constraining lateral variations of asthenosphere electrical conductivity using satellite-detected tidal magnetic signals	Alexander Grayver and Alexey Kuvshinov
4:35-5:00	Time-domain three-dimensional simulation of tsunami-generated electromagnetic fields using the finite element method with unstructured mesh	Takuto Minami, Hiroaki Toh, Issei Kawashima, and Hiroshi Ichihara
5:00-5:30	Discussion	

The 6th International Symposium in Three-Dimensional Electromagnetics

March 28-30, 2017, Berkeley, California, USA



Tuesday Posters - Developments and Case histories for Interpreting Natural Source Data

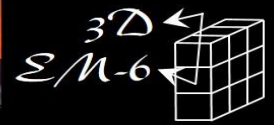
Title	Authors
Play fairway analysis for geothermal systems in the great basin extensional province emphasizing magnetotellurics, structural geology and isotope geochemistry	Phil Wannamaker , Virginie Maris, and Michal Kordy
3-D electrical resistivity structure based on geomagnetic transfer functions exploring the features of arc magmatism	Maki Hata and Makoto Uyeshima
A proposal for a common MT model format	Alexander Grayver, Randall Mackie, and Marion Miensopust, and Federico Miorelli
Three-dimensional finite-difference magnetotelluric forward modeling in the presence of magnetic permeable heterogeneity	Libin Lu, Handong Tan and Kunpeng Wang
Three-dimensional finite element forward modeling for arbitrary anisotropy magnetotelluric	Ning Zhao, XuBen Wang, Gang Yu, ZX He, Ce Qin
Sensitivity analysis of full waveform time domain data for magnetotelluric problem using fictitious wave domain method and cascade decimation decomposition	Naoto Imamura, Adam Schultz and Russell Cosgrove
On the Influences of starting/prior models in three-dimensional magnetotelluric inversion	Hao Dong and Alan G. Jones
Some results from ModEM3DMT, the freely available OSU 3D MT inversion code	Gary D. Egbert, Naser Meqbel, Anna Kelbert
Three-dimensional goal-oriented finite element forward modeling for magnetotelluric using model decomposition parallel approach	Ce Qin, Xuben Wang and Ning Zhao

Session 3 : Wednesday AM - Developments in Modeling Controlled Source Data

	Title	Authors
8:30-8:55	Recent progress in rigorous algorithms for the fast solution of 3-D EM frequency domain integral-equations	Anton Menshov, Yaniv Brick, Carlos Torres-Verdin, and Ali E. Yilmaz
8:55-9:20	Integral equation solver based on high-order polynomial basis	M. Kruglyakov and A. Kuvshinov
9:20-9:45	Model order reduction of electromagnetic wave fields in open domains	J. Zimmerling, V. Druskin, M. Zaslavsky and R. Remis
9:45-10:20	Posters and break	
10:20-10:45	A multi-scale grid strategy in time domain electromagnetic modelling	Huairfeng Sun, Kai Li, Shucai Li and Xiu Li
10:45-11:10	Implementation of the rational Krylov subspace method for marine tCSEM forward modeling and sensitivity calculation on GPU	M. Sommer, S. Hölz and M. Jegen
11:10-11:35	Geophysical electromagnetic data modelling with radial basis function generated finite differences	Jianbo Long and Colin Farquharson
11:30-12:00	Discussion	

The 6th International Symposium in Three-Dimensional Electromagnetics

March 28-30, 2017, Berkeley, California, USA



Session 4 : Wednesday PM - Developments in Modeling and Inverting Controlled Source Data

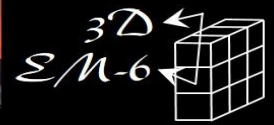
	Title	Authors
1:30-1:55	Multiscale and Upscaling Finite Volume Methods to Simulate Geophysical Electromagnetic Responses	L.A. Caudillo-Mata, E. Haber and C. Schwarzbach
1:55-2:20	3D MT and CSEM modeling with multi-resolution grid	M. Cherevatova, G. D. Egbert, M. Yu. Smirnov and M. Becken
2:20-2:45	Fast 3D Inversion of Borehole Resistivity Measurements using a Dimension-Adaptive Simulation Method	Á. Rodríguez-Rozas, D. Pardo, and C. Torres-Verdín
2:45-3:10	3D individual and joint inversion of DC resistivity and EM data	J. Weißflog, F. Eckhofe, R.-U. Börner, M. Eiermann, O.G. Ernst, and K. Spitzer
3:10-3:45	Posters and Break	
3:45-4:10	Structurally constrained 3D anisotropic inversion of marine CSEM data using a cross-gradient approach	Max A. Meju and Aslam B. A. Fatah
4:10-4:35	jInv: A modular and scalable framework for electromagnetic inverse problems	Eldad Haber and Patrick Belliveau
4:35-5:00	Wavelet-based 3D inversion for frequency-domain AEM data	Yunhe Liu, Colin Farquharson and Changchun Yin
5:00-5:30	Discussion	

Wednesday Posters - Developments in Modeling and Inverting Controlled Source Data

	Title	Authors
	Contraction Preconditioner in FD EM Modeling and its Parallelization	Nikolay Yavich, Mikhail Malovichko, Nikolay Khokhlov, and Michael S. Zhdanov
	Fast 3D simulation of semi-airborne transient electromagnetic responses by model reduction method	Lifeng Mao and Xuben Wang
	A vector finite element method of 3D forward modelling for CSEM with complex-shape transmitting sources	Jianhui Li, Colin G. Farquharson, Xiangyun Hu, and Ronghua Peng
	Modeling arbitrary CSEM setups with the novel FEniCS-based toolbox custEM	R. Rochlitz and T. Günther
	Efficient solver for stabilized formulations of the Maxwell's equations	Alexander Grayver
	3D finite-volume time-domain electromagnetic modeling using unstructured grids	Xushan Lu, Colin G. Farquharson and Jianhui Li
	Gauss-Newton based 3D anisotropic inversion of marine CSEM data	Ronghua Peng, Xiangyun Hu, Jianhui Li, and Jianchao Cai
	Anisotropic three-dimensional inversion of marine controlled-source electromagnetic data based on a secondary-field Nédélec finite element forward operator and unstructured grids	Feiyan Wang, Jan Petter Morten, and Klaus Spitzer
	Development of a scalable and flexible computation strategy for large-scale electromagnetic problems	Hao Dong, Gary Egbert and Naser Meqbel

The 6th International Symposium in Three-Dimensional Electromagnetics

March 28-30, 2017, Berkeley, California, USA



Wednesday Evening Symposium Banquet Revival Bar and Kitchen, 2102 Shattuck Ave, Berkeley, CA

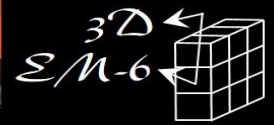
7:15-7:45	Happy hour – drinks on your own dime, appetizers on 3DEM-6
7:45-8:00	Dinner seating
8:00-8:30	Welcoming remarks and first course
8:30-9:15	Entrée
9:15-9:30	Dessert & coffee
9:30-10:00	GWH Award presentations
10:00	Depart

Revival management would appreciate cash for beer, icebreaker wine and cocktails.

Dinner wine is provided.

The 6th International Symposium in Three-Dimensional Electromagnetics

March 28-30, 2017, Berkeley, California, USA



Session 5 : Thursday AM - Controlled Source Modeling and Inversion Studies

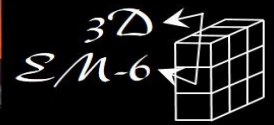
	Title	Authors
8:30-8:55	Interpretation of deep directional resistivity measurements in high-angle and horizontal wells	V. Puzyrev, C. Torres-Verdin, and V. Calo
8:55-9:20	3D land CSEM inversion in noisy environment with a single transmitter: inversion approach and application for geothermal water prospection	F. Bretaudeau, S. Penz, N. Coppo, P. Wawrzyniak, and M. Darnet
9:20-9:45	Multidimensional-multicomponent inversion of transient electromagnetic data: Synthetic and field data applications	R. Martin and B. Tezkan
9:45-10:20	Posters and Break	
10:20-10:45	Synthesizing 3D time-domain EM data for forward modelling of uranium deposits	Drew Jones, Colin Farquharson, Seyed Masoud Ansari, and Robert Hearst
10:45-11:10	SEAM2: 3D non-seismic modeling of a complex Middle East O&G prospect	M. D. Watts, R. L. Mackie, and C. Scholl
11:10-11:35	SEAM2: 3D inversion of synthetic MT and airborne EM from a complex Middle East O&G model	R.L. Mackie, C. Scholl, and M.D. Watts
11:30-12:00	Discussion	

Session 6 : Thursday PM – Controlled Source Case Histories and Casing Studies

	Title	Authors
1:30-1:55	3D EM modeling of steel casings using an equivalent RL circuit network	Dikun Yang and Douglas Oldenburg
1:55-2:20	Modular electromagnetic simulations with applications to steel cased wells	Lindsey J. Heagy, Rowan Cockett and Douglas W. Oldenburg
2:20-2:45	The mimetic multiscale method for electromagnetics at a borehole with casing	W. Wilhelms, C. Schwarzbach and E. Haber
2:45-3:10	Borehole to surface electromagnetic monitoring of hydraulic fractures	G. Michael Hoversten, Christoph Schwarzbach, Eldad Haber, Patrick Belliveau, and Roman Shekhtman
3:10-3:45	Posters and Break	
3:45-4:10	Using well-casing antenna sources for electrical surveys	Greg Nieuwenhuis, Michael Wilt, and Dikun Yang
4:10-4:35	Onshore 3D CSEM inversion in practice	Oliver Ritter, Kristina Tietze, Cedric Patzer and Paul Veeken
4:35-5:00	Three-dimensional inversion of the frequency domain airborne CSEM data over the kimberlite complex for the conductive and susceptible heterogeneities	Kyubo Noh, Seokmin Oh, Soon Jee Seol, and Joongmoo Byun
5:00-5:30	Discussion	

The 6th International Symposium in Three-Dimensional Electromagnetics

March 28-30, 2017, Berkeley, California, USA



Thursday Posters - Developments in Modeling and Inverting Controlled Source Data

Title	Authors
Plausibility of monitoring hydrofracturing with electromagnetic array: suggestions from 3D numerical simulation	Lanbo Liu and Mark Zoback
3D EM modeling for reservoir monitoring applications	Sofia Davydycheva , Ingo Geldmacher, Tilman Hanstein, and Kurt Strack
Near surface multiple resistivity method and interpretation study for mining uses within the context of the South African Eastern Bushveld complex	Wesley Harrison and Susan Webb
3D tipper response of Controlled-Source Audio-frequency Magnetotellurics	Kunpeng Wang, Handong Tan, Libin Lu and Cong Wang
High resolution cross-hole electromagnetic imaging with contrast source inversion	Yongxing Li and Richard S. Smith
Hierarchical material properties in finite element modeling: An example in 3D DC resistivity modeling of infrastructure	Chester J Weiss
Multi-physics inversion for reservoir modeling including transient-EM data	Michael Commer, G.M. Hoversten, S. Finsterle, and Y. Zhang

