

# SEISMOLOGICAL RESEARCH LETTERS

Volume 85, Number 3 May/June 2014

® indicates that online material is available on the SSA Web site, <http://seismosc.org>.

## ARTICLES

<b>The Array Network Facility Seismic Bulletin: Products and an Unbiased View of United States Seismicity ®</b>	<b>576</b>
Luciana Astiz, Jennifer A. Eakins, Vladislav G. Martynov, Trilby A. Cox, Jonathan Tytell, Juan C. Reyes, Robert L. Newman, Gulsum H. Karasu, Taimi Mulder, Malcolm White, Geoffrey A. Davis, Robert W. Busby, Katrin Hafner, Jon C. Meyer, and Frank L. Vernon	
<b>An Empirical Approach to Subspace Detection</b>	<b>594</b>
Sarah A. Barrett and Gregory C. Beroza	
<b>High Probability of Foreshock Occurrence and Significant Probability of Multiple Events Associated with Magnitude <math>\geq 6</math> Earthquakes in Nevada, U.S.A.</b>	<b>601</b>
Craig M. dePolo	
<b>The 24 January 2013 <math>M_L</math> 4.4 Earthquake near Paradox, Colorado, and Its Relation to Deep Well Injection</b>	<b>609</b>
Lisa V. Block, Christopher K. Wood, William L. Yeck, and Vanessa M. King	
<b>An Investigation of <math>m_{bLg}</math> Versus <math>M_w</math> for Eastern North America ®</b>	<b>625</b>
Christopher Rigsby, Robert B. Herrmann, and Harley Benz	
<b>Subway-Induced Vibrations in Cologne Cathedral</b>	<b>631</b>
Klaus-G. Hinzen	
<b>Rate Changes, Premonitory Quiescence, and Synchronization of Earthquakes in Northern Italy and Its Surroundings ®</b>	<b>639</b>
Pier Luigi Bragato	
<b>Global Navigation Satellite Systems Seismology for the 2012 <math>M_w</math> 6.1 Emilia Earthquake: Exploiting the VADASE Algorithm ®</b>	<b>649</b>
E. Benedetti, M. Branzanti, L. Biagi, G. Colosimo, A. Mazzoni, and M. Crespi	
<b>Fifty Years of Seismic Network Performance in Greece (1964–2013): Spatiotemporal Evolution of the Completeness Magnitude</b>	<b>657</b>
Arnaud Mignan and Gerasimos Chouliaras	
<b>Surface Microseismic Monitoring of Hydraulic Fracturing of a Shale-Gas Reservoir Using Short-Period and Broadband Seismic Sensors ®</b>	<b>668</b>
Xiangfang Zeng, Haijiang Zhang, Xin Zhang, Hua Wang, Yingsheng Zhang, and Qiang Liu	

<b>OPINION</b>	<b>569</b>
Kelin Wang and Garry C. Rogers	
<b>NEWS AND NOTES</b>	<b>572</b>
<b>TRANSITIONS</b>	<b>573</b>
<b>IN MEMORIAM</b>	<b>574</b>
Jim Fowler	
<b>NEW PUBLICATIONS</b>	<b>752</b>
<b>COMING IN BSSA</b>	<b>753</b>
<b>NOMINATIONS FOR JSA AWARD</b>	<b>764</b>
<b>MEETING CALENDAR</b>	<b>765</b>

---

<i>Analysis of the Severe-Damage Online Felt Reports for the Canterbury (New Zealand) 2011 Aftershocks on 22 February <math>M_w</math> 6.2, 13 June <math>M_w</math> 6.0, and 23 December <math>M_w</math> 6.0</i> (E)	<b>678</b>
T. Goded, W. J. Cousins, and K. F. Fenaughty	
<i>OpenQuake Engine: An Open Hazard (and Risk) Software for the Global Earthquake Model</i>	<b>692</b>
M. Pagani, D. Monelli, G. Weatherill, L. Danciu, H. Crowley, V. Silva, P. Henshaw, L. Butler, M. Nastasi, L. Panzeri, M. Simionato, and D. Vigano	
<i>Insights on a Key Parameter of Earthquake Forecasting, the Coefficient of Variation of the Recurrence Time, Using a Simple Earthquake Simulator</i> (E)	<b>703</b>
Francesco Visini and Bruno Pace	
<b>Erratum</b>	<b>714</b>

---

## **ELECTRONIC SEISMOLOGIST**

<i>MSNoise, a Python Package for Monitoring Seismic Velocity Changes Using Ambient Seismic Noise</i>	<b>715</b>
Thomas Lecocq, Corentin Caudron, and Florent Brenguier	
<i>The AHEAD Portal: A Gateway to European Historical Earthquake Data</i> (E)	<b>727</b>
Mario Locati, Andrea Rovida, Paola Albini, and Massimiliano Stucchi	
<i>RTQUAKE, A Real-Time Earthquake Detection System Integrated with SEISAN</i>	<b>735</b>
T. Utheim, J. Havskov, M. Ozyazicioglu, J. Rodriguez, and E. Talavera	

---

## **HISTORICAL SEISMOLOGIST**

<i>New Insights on the Strongest Historical Earthquake in the Pollino Region (Southern Italy)</i>	<b>743</b>
Andrea Tertulliani and Luigi Cucci	

---

## **EASTERN SECTION SEISMOLOGICAL RESEARCH LETTERS**

---

<i>Characteristics of the 17 May 2013 M 4.5 Ladysmith, Quebec, Earthquake</i>	<b>755</b>
Gail M. Atkinson, Karen Assatourians, and Maurice Lamontagne	
<b>Eastern Section SSA 2014 Annual Meeting</b>	<b>763</b>