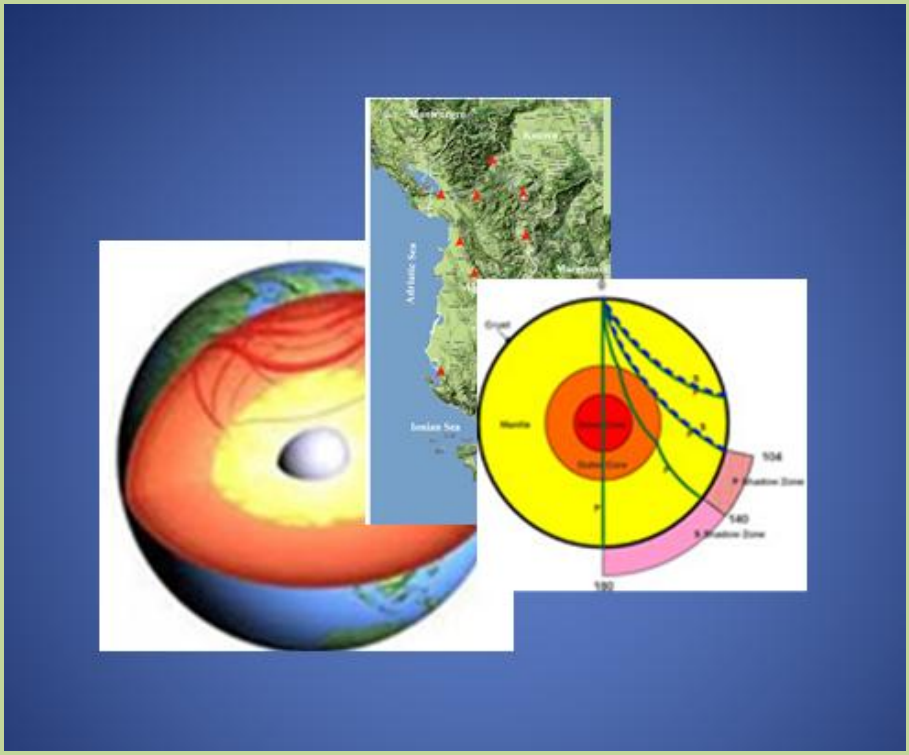


BULETINI I TËRMETEVE TË RRJETIT SIZMOLOGJIK SHQIPTAR

DHJETOR 2013

PARAMETRIC DATA
AND ALBANIAN'S EARTHQUAKE ANALYSIS
DECEMBER 2013

UNIVERSITETI POLITEKNIK I TIRANËS
INSTITUTI I GJEOSHKENCAVE, ENERGJISË, UJIT DHE MJEDISIT
Departamenti i Sizmologjisë

BULETINI MUJOR I RRJETIT SIZMOLOGJIK

TË SHQIPERISË

DHJETOR 2013

MONTHLY BULLETIN OF THE ALBANIAN

SEISMOLOGICAL NETWORK

DECEMBER 2013

Perliluar nga:
Compiled by:
Prof.Asoc.Dr. Rrapo ORMËNI
Dr. Edmond DUSHI

Redaktor pergjegjes
Redactor in Chief
Prof.Asoc.Dr. Rrapo ORMËNI

Drejtori i Institutit
Director of Institute
Prof. Mitat SANXHAKU

Tiranë, 2013

INFORMACION I PERGJITSHEM

Prezantim

Buletini Sizmologjik Shqiptar është një publikim periodik i parametrave valore, parametrave vatrore dhe madhësisë së tërmeteve brenda territorit të Shqiperisë dhe rrotull saj, përpiluar nga Departamenti i Sizmologjisë i Institutit te Gjeoshkencave, Energjisë, Ujit dhe Mjedisit pranë Universitetit Politeknik të Tiranës.

Parametrat e vlerësuar i referohen kuadrantit gjeografik të kufizuar nga koordinatat: 39.0^0-43.0^0 V dhe 18.5^0-21.5^0 L.

Buletini përmban pjesën spjeguese të përbërë nga informacioni i përgjithshëm, simbolet e përdorura për parametrat e vlerësuar, të dhënat fazore valore për seicilin nga tërmetet e regjistruar dhe përpunuar, katalogu mujor i termeteve, informacionin makrosimik, statistikor, mekanizmin vatror dhe hartën e shpërndarjes së epiqendrave. Në të përfshihen disa kategori tërmetesh, bazuar në informacionin e regjistruar dhe përpunuar për secilen prej tyre. Ato jane: **1**- tërmetet e lokalizuar; **2**- tërmetet e regjistruar nga më shumë se një stacion lokal, por jo të lokalizuar dhe **3**- termete te regjistruar të paktën nga një stacion lokal, por me më shumë se një fazë valore.

Të dhënat parametrike, si më siper, vlerësohen në mënyrë të pandërprerë nëpërmjet monitorimit sizmologjik dhe bazohen në analizën sasiore të regjistrimit instrumental valor. Llogaritja e vlerave të tyre është produkt i aplikimit të metodave analitike të njohura, në menyrë

GENERAL INFORMATION

Introduction

The Albanian Seismological Bulletin is a periodic publication of earthquake wave data, source parameters and their magnitudes, for every seismic event occurring inside the Albanian territory and its surroundings. This publication is compiled in the Department of Seismology of the Institute of Geosciences, Energy, Water and Environment under the Polytechnic University of Tirana. All the estimated values, of the parameters, refer to the geographic quadrant confined by the coordinates: 39^0- 43^0N and 18.5^0-21.5^0 E. Bulletin comprises a description section, containing the most general information, the section of the used symbols corresponding to all the evaluated parameters, phases data for each of the recorded and located earthquakes. It contains also the event catalogue, the macro- seismic information, the statistical information, the focal mechanism solutions and an aerial epicenter distribution map.

Different earthquake information categories are included, depending on their recorded and elaborated information, for each of them. They are: **1**- 1ocalized earthquakes; **2**- earthquakes recorded from more than one local station, but not located and **3**- earthquakes recorded at least by one station, but having more than one seismic phase.

The parametric data, as above, are permanently evaluated throughout the seismological monitoring routine, based upon quantitative analyze of instrumental waveform recordings. Their computed values are the direct application

iterative dhe interaktive, të aplikuara në programe llogarites të çertifikuar dhe të njohur globalisht. Kështu, për përcaktimin e të dhënave kohore valore hyrëse përdoret programi Atlas, ndërsa lokalizimi i tërmeteve kryhet nëpërmjet programit Hypoinverse.

Në këtë analizë merret në konsideratë modeli lokal për strukturën e shpejtësisë së përhapjes së valëve sizmike (Ormëni 2007) (kryesisht atyre volumore, primare dhe sekondare, P dhe S). Vlerësimi i magnitudës realizohet duke aplikuar modele të njohur parametrik si ai Richter & Gutenberg (1956) dhe Eaton (1992).

Analiza e të dhënave të publikuara realizohet nga grupi i punes i përbere nga punonjësit kërkues shkencor Rrapo Ormeni dhe Edmond Dushi si edhe ata ndihmës shkencor Ardian Minarolli dhe Ervin Kasa.

Informacioni instrumental valor përftohet nëpërmjet një rrjeti stacionesh lokal, ku përfshihen: stacioni sizmologjik qëndror i Tiranës (TIR), B. Currit (BCI), Pukës (PUK), Peshkopisë (PHP), Vlorës (VLO), Tepelenës (TPE), Sarandës (SRN) dhe Korçës (KBN), te cilët janë të paisur me sensor me bandë të gjerë regjistrimi. Gjithashtu, rrjeti lokal përmban edhe një numër stacionesh me regjistrim me period të shkurtër, ku përfshihen: Shkodra (SDA), Laçi (LACI) dhe Leskoviku (LSK).

Në analizë perfshihen edhe të dhënat valore të regjistruara e përcaktuara nga një numër stacionesh sizmologjik të rajonit dhe Mesdheut, të cilët i përkasin rrjetit sizmologjik të Universitetit “Aristotel” të Selanikut (AUTH), rrjetit sizmologjik Italian të menaxhuar nga Instituti Kombetar i Gjeofizikës dhe Vullkanologjisë (INGV), si edhe stacione të rrjetit sizmologjik të Observatorit Sizmologjik të Malit të Zi (MSO).

result of known analytical methods, iteratively and interactively, within certified and globally known computational programs.

Hence, for the onset time data determination, the Atlas program is used, whereas the earthquake location is done by mean of Hypoinverse program. For this analyze, a local velocity model accounting for the local and accurate seismic wave paths, is used (Ormeni, 2007). Mainly body seismic waves are concerned, primary P-phases and secondary S-phases, within computation and location process. Magnitude determination is achieved through known parametric models as the one of Richter (1956) and Eaton (1992).

Analyzes of the published data is undertaken from a dedicated working group, comprising by scientific staff Rrapo Ormeni & Edmond Dushi and technical staff Ardian Minarolli & Ervin Kasa.

Instrumental information is achieved through a network of local seismological stations, as listed: Tirana central station (TIR), B. Curri (BCI), Puka (PUK), Peshkopia (PHP), Vlora (VLO), Tepelena (TPE), Saranda (SRN) and Korça (KBN), which are equipped with broad band seismic sensors.

Also, the local network enumerates some short period recording stations, situated at Shkodra (SDA), Laçi (LACI) and Leskoviku (LSK).

In this analyze, data from a number of regional stations, are included as well. They are distributed along the Mediterranean coast and belong to the AUTH network of the “Aristotle” university of Thessaloniki, Italian National Seismological Network managed from National Institute of Geophysics and Volcanoes (INGV) as well as seismological stations of the Seismological Observatory of Montenegro (MSO).

STACIONET E RRJETIT SIZMOLOGJIK(SEISMOLOGICAL NETWORK STATION)

Kodi Stacionit (Stn. Code)	Regjistrimi (po/jo) (Registered)	Koordinatat (Coordinates)		Lartesia (Elevation)	Tipi Stacionit (Stn. Type)	Sizmometri (Sensor Type	Sistemi regjistrimit Recording system	Sistemi i komunikimit Comunication system	Perioda natyrore e sensorit (Natural Sensor period
		V-J (*N-S*)	*L-P* (*E-W*)						
TIR	Po (y)	41.3477	19.8650	198	3C-VBB	STS-2	Quantera	VSAT	120 s
BCI	Po	42.3666	20.0675	500	3C-BB	CMG-40T	Trident	VSAT	40 s
KKS	Po	42.0756	20.4113	300	3C-BB	SM-4 (B)	GBD-x16	Dial Up	0.2 s
PHP	Po	41.6847	20.4408	670	3C-BB	Trillium-40	Trident	VSAT	40 s
PUK	Po	42.0426	19.8926	900	3C-BB	Trillium-40	Trident	VSAT	40 s
SDA	Po	42.0519	19.4986	80	3C-SP	SM-4 (B)	GBD-x16	Dial Up	0.2 s
LACI	Po	41.6363	19.7094	40	3C-SP	SM-4 (B)	GBD-x16	Dial Up	0.2 s
KBN	Po	40.6236	20.7874	800	3C-BB	Trillium-40	Trident	VSAT	40 s
LSK	Po	40.1500	20.6000	920	3C-SP	SM-4 (B)	GBD-x16	Dial Up	0.2 s
TPE	Po	40.2952	20.0109	240	3C-BB	CMG-40T	Trident	VSAT	40 s
VLO	Po	40.4686	19.4955	80	3C-BB	Trillium-40	Trident	VSAT	40 s
SRN	Po	39.8800	20.0005	20	3C-BB	Trillium-40	Trident	VSAT	40 s

SIMBOLIKA E PERDORUR NE PERMBAJTJEN E BULETINIT SIZMOLOGJIK
SYMBOLIC USED IN SEISMOLOGICAL BULLETIN CONTAIN

Simboli (Symbol)	Parametri korrespondues (Corresponding parameter)	Pershkrimi (Description)
Y	Viti (year)	Viti ndodhjes se ngjarjes (year of occurence)
M	Muaji (month)	Muaji i ndodhjes së ngjarjes (month of occurence
D	Dita (day)	Data e ndodhjes së ngjarjes (date of occurence)
H	Ora (hour)	Ora ne origjine (UTC) (origine time universal)
M	Minuta (minute)	Minuta (origine time minute)
Sec	Sekonda (second)	Sekonda (origine time second)
Lat	Gjerësia gjeografike (latitude)	Gjeresia gjeografike e epiqendrës Veri-Jug(^{0}) Geographical latitude N-S direction
Lon	Gjatësia gjeografike (longitude)	Gjatesia gjeografike e epiqendrës Lindje-Perendim(^{0}) Geographical longitude E-W direction
Dep	Thellësia (depth)	Thellësia vatrore (focal depth)-km
Hor. err	Gabimi horizontal (horizontal error)	Gabimi ibërë në vlerësimin eepiqendres (km) Estimation error of epicentre
Ver. err	Gabimi vertikal (vertical error)	Gabimi i bërë në vlerësimin e thellësisë (km) Depth estimation error
Gap	Mosmbulimi me stacione minitorimi (azimutal gap)	Zona e sferës fokale (imagjinare),e pa mbuluar me stacione regjistrues Azimutal station gap
Rms	Gabimi mesatar kuadratik (Root mean squarre)	Gabimi i pergjitshem (Total estimation error-sec)
Mag	Magnituda (magnitude)	Madhesia e termetit sipas shkalles lokale te kalibruar (local calibrated measure of the earthquake size)
Net	Emërtimi i rrjetit sizmologjik (network code)	Kodi nderkombetar i identifikimit te rrjetit ne FDSN (Federation of Digital seismologies network) eshte AC

		(International code of Network identification on FDSN is AC)
Nr	Numuri i stacioneve (station's number)	Nr. Stacioneve te perdorur ne lokalizim (No. Of used stations)
STAT	Kodi i stacionit (station code)	Kodi nderkombetar që përdoret për të identifikuar stacionin përkatës sizmologjik (tre karaktere) (international stn code)
SP	Komponentja e regjistrimit (recording component)	Kodimi i komponenteve te regjistrimit ne perputhje e orientimin gjeografik 3D (Z, N ose E) Component code acording to recording direction
IPHASW	Faza valore sizmike (seismic wave phase)	tipi i valës P (P_g / P_n) ose S (S_g / S_n) (wave phase type)
D	Polariteti i hyrjes së parë në komponenten vertikale (first vertical honsent polarity)	Polariteti i vales renese ne statcion, ne komponenten Z (first onset polarity on Z)
HRMM SECON	Ora, minuta dhe sekonda (time onsets for each phase)	Te dhenat kohore per mbrritjen e seciles faze ne regjistrim Time data for each phases on recording
AZIMU	Kendi azimutal (station-source azimuth angle)	Azimuti stacion- vater termeti Station-focus azimuthal angle
RES	Diferenca kohore (time residual)	Ndryshimi ndërmjet kohës teorike të llogaritur nga modeli dhe kohës faktike, nga regjistrimi Time residuals between calculated and observed times
DIS	Largesia epiqendrore (epicentral distance)	Largesia hoeizontale epiqender-stacion Distance from epicenter to the station
DUR	Zgjatshmeria e sinjalit sizmik (signal time duration)	Shpreh zgjatshmerinë e plotë të sinjalit sizmik ne sizmogram Total Signal Duration

INFORMACIONI PARAMETRIK FAZOR DHE LOKALIZIMI (PARAMETRIC PHASES INFORMATION AND LOCATION)

TËRMETE TË AFËRTA (NEAR EARTHQUAKE)

```
Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 01 2101  01.28                ASN        PHP
 GAP=                    hor.err=            ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS      DUR    Md
PHP  SZ IPG      2101 01.28
 PHP  SE ISG      2101 06.52
```

```
Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 02 0249  13.50               ASN       PHP
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0249 13.50
 PHP  SE ISG      0249 16.80


 ***
Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 04 1643 33.51   40.67  19.69  2    ASN 7  0.2 3.8  10KM S-E FIER
 GAP=328                  hor.err=1km        ver.err=1KM   -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
VLO  SZ IPG      1643 39.67     216       0.1      29      60     3.3
 VLO  SE ISG      1643 43.27     216       0.1      29
 TPE  SZ IPG      1643 42.72     147      -0.1      50     62     3.4
 TPE  SE ISG      1643 50.67     147       0.0      50
 TIR  SZ IPG      1643 47.37     10        0.1      75     104    3.9
 TIR  SE ISG      1643 57.22     10        0.1      75
 SRN  SZ IPG      1643 50.35     163       0.0      92     84     3.7
 SRN  SE ISG      1644 04.05     163      -0.1      92
 PHP  SZ IPG      1643 36.59     29       -0.1      128    122    4.0
 PHP  SE ISG      1644 14.06     29       -0.1      128
 PUK  SZ IPN      1644 00.29     6         0.0      152    133    4.1
 PUK  SE ISN      1644 21.07     6         0.1      152
 BCI  SZ IPN      1644 05.81     9         0.1      190     82     3.7
 BCI  SE ISN      1644 30.59     9        -0.1      190


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

2013 12 06 1910 59.00   41.00    20.34  9    ASN 6  0.2 2.4 STRAVA-ELBASAN
 GAP=115                  hor.err=1km        ver.err=1KM   -ALBANIA

STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      1911 09.21     315       0.1      56      20     2.5
 TIR  SE ISG      1911 16.98     315       0.2      56
 PHP  SZ IPG      1911 12.94     6         0.1      77  18     2.4
 PHP  SE ISG      1911 23.34     6         0.0      77
 TPE  SZ IPG      1911 12.95     200      -0.1      83 16     2.3
 TPE  SE ISG      1911 25.07     200      -0.2      83
 FNA  SZ IPG      1911 15.33     104       0.1      91
 FNA  SE ISG      1911 27.71     104       0.2      91
 SRN  SZ IPG      1911 21.91     194       0.2      127          16     2.3
```

```
 SRN  SE ISG      1911 38.44     194      -0.2      127
 BCI  SZ IPN      1911 25.84     352      -0.1      153
 BCI  SE ISN      1911 45.79     352      -0.3      153


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 06 2311 04.31   41.16  20.74  7    ASN 3  0.1 2.1  MACEDONIA
 GAP=159                 hor.err=1km         ver.err=12KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      2311 15.86     337      -0.1      63      12     2.1
 PHP  SE ISG      2311 24.45     337      -0.1      63
 FNA  SZ IPG      2311 16.72     127       0.0      68
 FNA  SE ISG      2311 26.01     127       0.1      68
 TIR  SZ IPG      2311 18.09     286       0.1      76     13        2.1
 TIR  SE ISG      2311 28.48     286       0.1      76


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

2013 12 07 0539 39.01   41.85    20.54  7    ASN 3  0.1 2.2 DIBER-ALBANIA
 GAP=238                 hor.err=2km         ver.err=14KM

STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0539 43.12     205       0.1      20      14     2.1
 PHP  SE ISG      0539 24.45     205      -0.1      20
 BCI  SZ IPG      0539 51.55     327      -0.1      70     16     2.2
 BCI  SE ISG      0540 01.19     327       0.1      70
 FNA  SZ IPN      0540 03.12     148      -0.2      137
 FNA  SE ISN      0540 21.53     148       0.1      137


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 07 1304  41.40               ASN   PHP
 GAP=                   hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      1304  41.40
 PHP  SE ISG      1304  44.30


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 07 1816 51.69   41.21    20.27  7    ASN 4  0.1 2.2    KUTURMAN-
ALBANIA
 GAP=238                 hor.err=1km         ver.err=3KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
```

```
TIR  SZ IPG      1816 58.42     294       0.0      37      13     2
 TIR  SE ISG      1817 04.58     294       0.0      37
 PHP  SZ IPG      1817 01.30     14        0.0      54      15     2.2
 PHP  SE ISG      1817 09.11     14        0.1      54
 PUK  SZ IPG      1817 08.61     341       0.1      97      20     2.4
 PUK  SE ISG      1817 22.72     341      -0.1      97
 FNA  SZ IPN      1817 10.01     116       0.5      104
 FNA  SE ISN      1817 24.77     116       0.1      104


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 07 1816 51.69   41.21    20.27  7    ASN 4  0.1 2.2    KUTURMAN
 GAP=238                  hor.err=1km         ver.err=3KM- ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      1816 58.42     294       0.0      37    13     2
 TIR  SE ISG      1817 04.58     294       0.0      37
 PHP  SZ IPG      1817 01.30     14        0.0      54 15     2.2
 PHP  SE ISG      1817 09.11     14        0.1      54
 PUK  SZ IPG      1817 08.61     341       0.1      97 20     2.4
 PUK  SE ISG      1817 22.72     341      -0.1      97
 FNA  SZ IPG      1817 10.01     116       0.5      104
 FNA  SE ISG      1817 24.77     116       0.1      104


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

2013 12 08 0516 01.43   41.19  20.26  7    ASN 4  0.1 2     KUTURMAN
GAP=183                  hor.err=1km         ver.err=2KM-ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      0516 08.26     298       0.1      37  13     2
 TIR  SE ISG      0516 14.12     298       0.1      37
 PHP  SZ IPG      0516 11.11     15        0.0      56  12     2
 PHP  SE ISG      0516 19.65     15        0.1      56
 PUK  SZ IPG      0516 18.64     343       0.2      99  13     2.1
 PUK  SE ISG      0516 32.62     343      -0.1      99
 FNA  SZ IPG      0516 20.23     115       0.2      104
 FNA  SE ISG      0516 34.10     115      -0.3      104


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 08 1715 38.43   42.08    19.44  15   ASN 4  0.1 2.7  SHKODER
 GAP=261                  hor.err=0km         ver.err=1KM   - ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
BCI  SZ IPG      1715 49.34     58       -0.1      59  23     2.6
 BCI  SE ISG      1715 54.17     58        0.0      59
```

```
 TIR  SZ IPG      1715 54.31     157       0.0      89     25     2.7
 TIR  SE ISG      1716 06.56     157       0.0      89
 PHP  SZ IPG      1715 54.71     118      -0.4      94     24     2.7
 PHP  SE ISG      1716 07.66     118       0.0      94
 FNA  SZ IPN      1716 14.71     131       0.1     217
 FNA  SE ISN      1716 41.64     131      -0.1     217


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 09 0018 04.29   41.86    21.69  21   ASN 4  0.5 2.8 MACEDONIA
 GAP=259                  hor.err=4km         ver.err=2KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0018 22.62     260       0.1      105     26     2.8
 PHP  SE ISG      0018 37.49     260       0.9      105
 FNA  SZ IPG      0018 25.94     193       0.4      123
 FNA  SE ISG      0018 41.01     193      -0.4      123
 BCI  SZ IPN      0018 29.07     294       0.1      145     27       2.8
 BCI  SE ISN      0018 47.07     294      -0.5      145
TIR  SZ IPN      0018 33.24     250       1.4      162 28       2.8
TIR  SE ISN      0018 51.37     250      -0.4      162


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 09 0859 35.11   38.39    21.73  16   ASN 8  0.3 3.9    GREECE
 GAP=302                  hor.err=7km         ver.err=8KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
SRN  SZ IPN      0900 12.19     305       0.4      222 91    3.9
 SRN  SE ISN      0900 39.62     305       0.3      222
 TPE  SZ IPN      0900 17.04     332       0.6      258     91    3.9
 TPE  SE ISN      0900 47.27     332      -0.2      258
 FNA  SZ IPN      0900 18.28     29        0.2      266
 FNA  SE ISN      0900 50.04     29        0.3      266
 VLO  SZ IPN      0900 21.88     319      -0.2      300
 TIR  SZ IPN      0900 25.84     345      -0.7      364
 PHP  SZ IPN      0900 32.19     359      -0.6      381
 PHP  SE ISN      0901 16.28     359       0.2      381
 BCI  SZ IPN      0900 43.12     354      -0.2      463
BCI  SE ISN      0901 34.05     354      -0.9      463


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 09 1731 28.27   42.09  19.01  7    ASN 3  0.1 2.3   ADRIATIC SEA
 GAP=201                  hor.err=1km         ver.err=3KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
```

```
BCI  SZ IPG      1731 49.34     70        0.0      93  17     2.4
 BCI  SE ISG      1731 54.17     70       -0.1      93
 PHP  SZ IPG      1731 54.71     110      -0.1      127     19     2.2
 PHP  SE ISG      1732 07.66     110       0.1      127
 NOCI SZ IPN      1732 14.71     129       0.1      217
 NOCI SE ISN      1732 41.64     129      -0.1      217


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 10 0235 38.13   41.28    22.39  23   ASN 5  0.4 3 MACEDONIA
 GAP=266                  hor.err=2km         ver.err=2KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
FNA  SZ IPG      0235 56.66     238       0.7      102 31     3
 FNA  SE ISG      0236 09.46     238       0.2      102
 PHP  SZ IPN      0236 06.57     286      -0.2      169
 PHP  SE ISN      0236 27.55     286      -0.6      169
 TIR  SZ IPN      0236 12.96     273       0.2      212
 TIR  SE ISN      0236 38.38     273      -0.2      212
 BCI  SZ IPN      0236 14.44     303      -0.4      228
 BCI  SE ISN      0236 43.09     303       0.5      228
 SRN  SZ IPN      0236 19.12     234       0.6      256
SRN  SE ISN      0236 49.13     234       0.3      256


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 10 0824 30.24   41.07    19.62  39   ASN 8  0.2 2.8 ROGOZHINE
 GAP=111                  hor.err=1km         ver.err=1KM   - ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      0824 39.04     33        0.1      36    21  2.8
 TIR  SE ISG      0824 45.33     33       -0.3      36
 VLO  SZ IPG      0824 43.54     190       0.3      68  18   2.8
 VLO  SE ISG      0824 53.23     190       0.1      68
 TPE  SZ IPG      0824 46.87     159       0.1      93
 TPE  SE ISG      0824 59.45     159       0.1      93
 PHP  SZ IPG      0824 47.21     45        0.0      96
 PHP  SE ISG      0825 00.55     45        0.4      96
 SRN  SZ IPG      0824 53.66     166       0.7      137
 SRN  SE ISG      0825 09.94     166       0.3      137
 BCI  SZ IPN      0824 52.31     14       -0.3      148
 BCI  SE ISN      0825 12.90     14        0.7      148
 SCTE SZ IPN      0824 54.36     222      -0.1      148
 SCTE SE ISN      0825 12.84     222      -0.2      148
 FNA  SZ IPN      0824 54.84     101      -0.3      152
 FNA  SE ISN      0825 13.61     101       0.5      152
```

```
Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 10 1833 04.24   42.54    19.15  20   ASN 6  0.1 4.3    MONTENEGRO
 GAP=261                 hor.err=0km         ver.err=1KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
BCI  SZ IPG      1833 18.31     104      -0.7      77  100    4
 BCI  SE ISG      1833 27.98     104       0.1      77
 PHP  SZ IPN      1833 29.94     131       0.6      142     113    4.2
 PHP  SE ISN      1833 46.90     131       0.1      142
 TIR  SZ IPN      1833 29.30     155       0.4      145     102    4.1
 TIR  SE ISN      1833 47.31     155       0.3      145
 VLO  SZ IPN      1833 40.90     172      -0.2      232     103    4.2
 VLO  SE ISN      1834 08.66     172      -0.2      232
 TPE  SZ IPN      1833 43.37     163       1.9      259     129    4.4
 TPE  SE ISN      1834 17.20     163      -0.9      259
 SRN  SZ IPN      1834 25.26     166       0.2      304     104    4.3
SRN  SE ISN      1834 42.38     166      -1.3      304


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 11 1011 11.58   41.23    20.09  7    ASN 4  0.1 2.2 KRRABE
 GAP=190                 hor.err=1km         ver.err=12KM  - ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      1011 16.20     304       0.1      23  13     2
 TIR  SE ISG      1011 19.50     304      -0.1      23
 PHP  SZ IPG      1011 22.21     30        0.0      58  19     2.4
 PHP  SE ISG      1011 30.10     30        0.0      58
 FNA  SZ IPG      1011 32.58     114      -0.2      119
 FNA  SE ISG      1011 48.73     114       0.1      119
 BCI  SZ IPG      1011 34.82     0         0.9      126
 BCI  SE ISG      1011 51.09     0         0.6      126


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 11 1300 49.39   38.92    22.62  19   ASN 9  0.8 4.3    GREECE
 GAP=256                 hor.err=12km         ver.err=10KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
 LKD2 SZ IPN      1301 17.78     266      -0.6      171
 LKD2 SE ISN      1301 40.09     266       0.1      171
THE  SZ IPN      1301 21.85     8         0.2      192
THE  SE ISN      1301 45.86     8         0.0      192
FNA  SZ IPN      1301 27.42     334      -0.9      232
 FNA  SE ISN      1301 54.47     334       0.3      232
 SRN  SZ IPN      1301 30.09     296       0.6      250     136     4.4
 SRN  SE ISN      1301 58.85     296      -0.7      250
```

```
 TPE  SZ IPN      1301 32.98     305       0.6      271     124      4.3
 TPE  SE ISN      1302 05.14     305       0.6      271
 VLO  SZ IPN      1301 39.89     304       1.3      318     116      4.3
 VLO  SE ISN      1302 15.91     304       0.4      318
 PHP  SZ IPN      1301 42.16     330       1.1      358     130      4.2
 PHP  SE ISN      1302 27.49     330       2.5      358
 TIR  SZ IPN      1301 44.89     320      -1.6      358
 BCI  SZ IPN      1301 53.03     332      -1.5      439
 BCI  SE ISN      1302 43.79     332       0.3      439


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 12 0016  20.58               ASN       PHP
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0016  20.58
 PHP  SE ISG      0016  24.82


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 12 0100  53.27               ASN  PHP
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0100  53.27
 PHP  SE ISG      0100  58.70


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 12 1021 43.59   39.62    20.50  32   ASN 9  0.2 3.9    GREECE
 GAP=142                 hor.err=1km        ver.err=1KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
SRN  SZ IPG      1021 53.92     305      -0.1      52   73   3.8
 SRN  SE ISG      1022 01.65     305       0.0      52
 TPE  SZ IPG      1021 59.63     332       0.0      86  82   3.9
TPE  SE ISG      1022 10.75     332       0.0      86
 LKD2 SZ IPG      1022 00.10     171       0.0      93
 LKD2 SE ISG      1022 12.56     171       0.0      93
 VLO  SZ IPG      1022 06.48     319       0.9      128
 FNA  SZ IPN      1021 08.58     29       -0.3      150
 FNA  SE ISN      1022 27.81     29        0.0      150
 SCTE SZ IPN      1022 13.15     288      -0.2      181
 SCTE SE ISN      1022 35.64     288       0.0      181
 TIR  SZ IPN      1021 16.13     345       0.3      200
 TIR  SE ISN      1022 40.02     345       0.1      200
```

```
 PHP  SZ IPN      1022 20.22     359      -0.5      230     81       4
 PHP  SE ISN      1022 46.48     359       0.5      230
 BCI  SZ IPN      1022 30.10     354       0.1      307
BCI  SE ISN      1023 04.42     354      -0.5      307


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 12 2232 04.57   41.73    20.22  16   ASN 4  0.1 2.4  KURBNESH
 GAP=134                 hor.err=1km         ver.err=3KM   - ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      2232 09.02     104       0.0      18  18     2.3
 PHP  SE ISG      2232 12.39     104       0.0      18
 TIR  SZ IPG      2232 14.23     216       0.0      52  17     2.4
 TIR  SE ISG      2232 21.53     216       0.0      52
 BCI  SZ IPG      2232 17.73     350       0.1      72
 BCI  SE ISG      2232 27.50     350       0.0      72
 FNA  SZ IPN      2232 29.47     136       0.3      143
 FNA  SE ISN      2232 47.32     136      -0.3      143


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 13 0132 20.15   41.74    19.94  19   ASN 4  0.1 2.3  RRESHEN
 GAP=179                 hor.err=1km         ver.err=1KM   - ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0132 28.53     98        0.1      42      15     2.3
 PHP  SE ISG      0132 34.51     98       -0.1      42
 TIR  SZ IPG      0132 28.57     189      -0.1      44      14     2.3
 TIR  SE ISG      0132 35.08     189       0.0      44
 BCI  SZ IPG      0132 32.98     8         0.0      70      14     2.3
 BCI  SE ISG      0132 42.59     8         0.0      70
 FNA  SZ IPN      0132 47.71     130       0.2      161
 FNA  SE ISN      0133 07.80     130      -0.1      161


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

2013 12 13 0135 32.78   40.09    19.93  6    ASN 5  0.2 2.4 FTERE-ALBANIA
 GAP=108                 hor.err=1km         ver.err=2KM

STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TPE  SZ IPG      0135 37.47     17        0.0      23      18     2.3
 TPE  SE ISG      0135 40.66     17       -0.2      23
 SRN  SZ IPG      0135 37.50     165      -0.2      25      21     2.4
 SRN  SE ISG      0135 41.12     165      -0.2      25
 SCTE SZ IPG      0135 54.85     270       0.0      124
 SCTE SE ISG      0136 10.43     270      -0.8      124
```

```
 FNA  SZ IPN      0135 58.52     57        0.2      145
 FNA  SE ISN      0136 16.92     57       -0.6      145
LKD2 SZ IPN      0136 00.69     156       0.3      158
 LKD2 SE ISN      0136 20.60     156      -0.5      158


 ***
 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 13 0334 20.71   41.02  20.50  12   ASN 7  0.2 3.9  NIMCE KUKES
 GAP=193                  hor.err=1km         ver.err=2KM      -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0334 28.38     188       0.4      37   89   3.8
 PHP  SE ISG      0334 33.01     188      -0.4      37
 BCI  SZ IPG      0334 30.34     318       0.1      52  89   3.8
 BCI  SE ISG      0334 37.75     318       0.1      52
 TIR  SZ IPG      0334 37.11     216       0.1      91   101 3.9
 TIR  SE ISG      0334 42.22     216      -0.2      91
 FNA  SZ IPN      0334 47.59     151       0.1      156
 FNA  SE ISN      0335 07.34     151       1.3      156
 VLO  SZ IPN      0334 54.41     207       0.4      191
 VLO  SE ISN      0335 17.14     207       0.2      191
 TPE  SZ IPN      0334 55.06     193       1.2      196      92       4
 TPE  SE ISN      0335 18.78     193       0.2      196
 SRN  SZ IPN      0335 00.88     191       0.9      241      91       4
 SRN  SE ISN      0335 29.55     191       0.1      241


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 13 0337  25.86              ASN       PHP
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0337  25.86
 PHP  SE ISG      0337  30.89


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 13 0339  08.66              ASN       PHP
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0339  08.66
 PHP  SE ISG      0339  14.17


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter
```

```
 2013 12 13 0344  11.56                ASN       PHP
 GAP=                      hor.err=            ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0344  11.56
 PHP  SE ISG      0344  16.04


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 13 2328 14.57   42.13    20.66  4    ASN 6  0.2 3.2    KOSOVO
 GAP=218                   hor.err=1km         ver.err=2KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      2328 24.27     201      -0.2      53   42     3.2
 PHP  SE ISG      2328 30.13     201      -1.8      53
 BCI  SZ IPG      2328 25.00     299       0.1      56  43    3.1
BCI  SE ISG      2328 32.69     299      -0.1      56
 TIR  SZ IPG      2328 34.38     218       0.1      109
 TIR  SE ISG      2328 48.83     218      -0.1      109
 FNA  SZ IPN      2328 42.85     157      -0.1      161
 FNA  SE ISN      2329 04.34     157       0.0      161
 TPE  SZ IPN      2328 51.16     169       0.2      211
 TPE  SE ISN      2329 18.23     169       0.1      211
SRN  SZ IPN      2328 56.97     193      -0.1      256


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 13 2340 46.81   42.14    20.71  2    ASN 7  0.5 3      KOSOVO
 GAP=224                   hor.err=2km         ver.err=2KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      2340 57.13     205      -0.5      56   20   2.5
 PHP  SE ISG      2341 03.88     205      -1.8      56
 BCI  SZ IPG      2340 58.04     295      -0.1      59   40   3.0
 BCI  SE ISG      2341 06.72     295       0.0      59
 TIR  SZ IPG      2341 07.75     219       0.2      113     42    3.1
 TIR  SE ISG      2341 22.10     219      -0.9      113
 FNA  SZ IPN      2341 15.89     159       0.2      161
 FNA  SE ISN      2341 36.94     159       0.3      161
 VLO  SZ IPN      2341 23.09     210      -0.7      212
 VLO  SE ISN      2341 52.49     210       0.9      212
 TPE  SZ IPN      2341 24.69     197       0.2      214
 TPE  SE ISN      2341 52.72     197       0.7      214
 SRN  SZ IPN      2341 29.34     194      -0.9      259
 SRN  SE ISN      2342 02.55     194      -0.3      259
```

```
Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 14 1516 25.51   41.97  20.57  5    ASN 4  0.4 2.7    KUKES
 GAP=196                 hor.err=4km         ver.err=1KM     -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      1516 32.47     200       0.2      35    26   2.7
 PHP  SE ISG      1516 36.89     200      -0.4      35
 BCI  SZ IPG      1516 37.16     316       0.4      60   26  2.7
BCI  SE ISG      1516 44.70     316      -0.3      60
 TIR  SZ IPG      1516 41.52     216      -0.5      92   29  2.8
 TIR  SE ISG      1516 54.96     216       0.4      92
 FNA  SZ IPN      1516 51.66     152      -0.2      149
 FNA  SE ISN      1516 11.74     152       0.2      149


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 14 1911 41.08   40.67  19.79  6    ASN 5  0.2 2.9   BERAT
 GAP=135                 hor.err=5km         ver.err=1KM    - ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
VLO  SZ IPG      1911 47.40     229      -0.2      34  31     2.8
 VLO  SE ISG      1911 52.46     229       0.0      34
 TPE  SZ IPG      1911 49.94     156       0.3      46 35     2.9
 TPE  SE ISG      1911 55.69     156      -0.2      46
 TIR  SZ IPG      1911 54.84     4         0.2      75  35     2.9
 TIR  SE ISG      1912 03.92     4        -0.8      75
 PHP  SZ IPG      1912 03.26     25        0.1      124     36     2.9
 PHP  SE ISG      1912 19.37     25       -0.3      124
 BCI  SZ IPN      1912 13.41     6        -0.2      189
 BCI  SE ISN      1912 38.22     6         0.1      189


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 15 2106  00.09               ASN       SRN
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
SRN  SZ IPG      2106 05.91
 SRN  SE ISG      2106 07.95


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 15 2106  48.09               ASN   PHP
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
```

```
PHP  SZ IPG      2112 48.09
 PHP  SE ISG      2112 52.73


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 15 2226 20.10   41.91  20.31  7    ASN 2  0.1 2   ARREN-ALBANIA
 GAP=224                 hor.err=2km         ver.err=2KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      2226 25.20     156      -0.1      27      12     2
 PHP  SE ISG      2226 29.35     156       0.1      27
 BCI  SZ IPG      2226 29.99     339      -0.1      55      15    2.1
 BCI  SE ISG      2226 37.66     339       0.1      55

=
 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 16 1938  59.15               ASN       PHP
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      1938 59.15
 PHP  SE ISG      1939 04.82


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 16 2303  39.40               ASN       PHP
 GAP=                    hor.err=           ver.err=

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      2303 39.40
 PHP  SE ISG      2303 36.07


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 17 2140 27.73   40.16    20.42  6    ASN 7  0.1 2.4 EAST POLICAN
 GAP=138                 hor.err=0km         ver.err=1KM    -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TPE  SZ IPG      2140 34.72     293       0.1      38  18     2.4
 TPE  SE ISG      2140 40.28     293      -0.1      38
 SRN  SZ IPG      2140 36.36     229      -0.2      48  19     2.4
 SRN  SE ISG      2140 42.57     229       0.1      48
 IGT  SZ IPG      2140 40.49     187       0.0      71
 IGT  SE ISG      2140 50.19     187       0.1      71
 VLO  SZ IPG      2140 43.21     294       0.2      85  23     2.6
```

```
 VLO  SE ISG      2140 54.45     294       0.1      85
 FNA  SZ IPG      2140 46.59     49       -0.1      107
 FNA  SE ISG      2141 00.99     49        0.1      107
 SCTE SZ IPN      2140 56.89     268       0.2      167
 SCTE SE ISN      2141 18.34     268       0.2      167
PHP  SZ IPN      2140 57.07     0        -0.1      169
PHP  SE ISN      2141 18.80     0         0.1      169


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 18 0409 59.29   40.18    19.66  7    ASN 5  0.1 2.4 DHERMI
 GAP=123                  hor.err=0km         ver.err=14KM  - ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TPE  SZ IPG      0410 05.54     67        0.1      34   16     2.2
 TPE  SE ISG      0410 10.00     67        0.0      34
 VLO  SZ IPG      0410 05.75     336      -0.1      35 21     2.4
 VLO  SE ISG      0410 10.82     336       0.0      35
 SRN  SZ IPG      0410 07.47     139      -0.1      44 18     2.4
 SRN  SE ISG      0410 13.74     139       0.0      44
 IGT  SZ IPG      0410 15.85     141      -0.2      92
 IGT  SE ISG      0410 28.28     141       0.1      92
 SCTE SZ IPG      0410 17.32     264      -0.2      102
 SCTE SE ISG      0410 31.46     264       0.2      102


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 18 1058 56.80   42.90  13.13  7    ASN 7  0.6 4    CENTRAL ITALY
 GAP=123                  hor.err=0km         ver.err=14KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
SGRT SZ IPN      1059 37.62     119       0.2      251
 SGRT SE ISN      1100 09.56     119      -0.7      251
 MRVN SZ IPN      1059 49.20     127      -0.3      326
 MRVN SE ISN      1100 26.33     127       1.1      326
 NOCI SZ IPN      1059 57.71     124      -0.3      402
 NOCI SE ISN      1100 43.96     124      -0.5      402
 BCI  SE ISN      1101 24.06     93        0.4      572
 PHP  SE ISN      1101 33.89     100      -0.4      618
 SRN  SE ISN      1101 46.11     118       0.8      666
 FNA  SE ISN      1101 56.59     106      -2.5      726


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 18 2120 03.13   39.88    22.54  14 ASN 9  0.3 4.1  AEGEAN SEA
 GAP=313                  hor.err=10km        ver.err=9KM
```

STAT	SP	IPHASW	D	HRMM	SECON	AZIMU	RES	DIS	DUR	Md
THE	SZ	IPN		2120	41.82	292	0.2	234		
THE	SE	ISN		2121	10.50	292	0.1	234		
FNA	SZ	IPN		2120	58.59	288	-0.5	367		
FNA	SE	ISN		2121	40.98	288	0.1	367		
LKD2	SZ	IPN		2121	08.54	256	0.1	438		
LKD2	SE	ISN		2121	57.64	256	0.1	438		
IGT	SZ	IPN		2121	09.74	267	-0.2	448		
IGT	SE	ISN		2121	59.60	267	-0.4	448		
SRN	SZ	IPN		2121	13.23	272	0.0	475	96	4.2
SRN	SE	ISN		2122	06.16	272	0.3	475		
TPE	SZ	IPN		2121	13.09	278	0.6	475		
PHP	SZ	IPN		2121	13.39	297	0.0	475		
PHP	SE	ISN		2122	06.30	297	0.2	475		
TIR	SZ	IPN		2121	17.71	291	0.0	507		
TIR	SE	ISN		2122	12.73	291	-0.8	507		
BCI	SZ	IPN		2121	20.63	303	-0.9	536		
BCI	SE	ISN		2122	20.15	303	-0.2	536		

Y	M	D	HM	Sec	Lat	Long	Dep	Net	Nr	Rms	Mag	Epicenter
2013	12	19	0512	59.16	41.97	20.28	7	ASN	2	0.0	2.1	KUKES-ALBANIA
GAP=183				hor.err=10km			ver.err=9KM					

STAT	SP	IPHASW	D	HRMM	SECON	AZIMU	RES	DIS	DUR	Md
PHP	SZ	IPG		0513	05.73	156	0.0	34	13	2.1
PHP	SE	ISG		0513	10.65	156	0.0	34		
BCI	SZ	IPG		0513	07.95	339	0.0	47	14	2.1
BCI	SE	ISG		0513	14.49	339	0.0	47		

Y	M	D	HM	Sec	Lat	Long	Dep	Net	Nr	Rms	Mag	Epicenter
2013	12	19	1310	22.82	42.80	21.12	5	ASN	3	0.8	2.8	KOSOVO
GAP=292				hor.err=7km			ver.err=8KM					

STAT	SP	IPHASW	D	HRMM	SECON	AZIMU	RES	DIS	DUR	Md
BCI	SZ	IPG		1310	40.42	242	-0.7	99	29	2.8
BCI	SE	ISG		1310	55.18	242	0.4	99		
PHP	SZ	IPN		1310	46.10	205	-1.4	136	28	2.8
PHP	SE	ISN		1311	05.04	205	-0.9	136		
FNA	SZ	IPN		1311	01.94	174	0.1	225		
FNA	SE	ISN		1311	31.78	174	0.6	225		

Y	M	D	HM	Sec	Lat	Long	Dep	Net	Nr	Rms	Mag	Epicenter
2013	12	21	0957	09.21	43.01	19.05	19	ASN	6	0.3	3.5	MONTENEGRO
GAP=261				hor.err=3km			ver.err=3KM					

STAT	SP	IPHASW	D	HRMM	SECON	AZIMU	RES	DIS	DUR	Md
BCI	SZ	IPG		0957	26.42	130	-1.8	109	46	3.3
BCI	SE	ISG		0957	42.23	130	-0.3	109		
PHP	SZ	IPN		0957	40.40	141	-0.1	186	59	3.6
PHP	SE	ISN		0958	04.04	141	0.1	186		
TIR	SZ	IPN		0957	42.38	159	0.4	196		
TIR	SE	ISN		0958	06.45	159	-0.1	196		
NOCI	SZ	IPN		0957	55.58	215	0.2	296		
NOCI	SE	ISN		0958	29.94	215	-0.1	296		
FNA	SZ	IPN		0957	55.84	141	-1.7	313		
FNA	SE	ISN		0958	34.05	141	0.1	313		
MRVN	SZ	IPN		0957	58.20	229	0.3	320		

Y	M	D	HM	Sec	Lat	Long	Dep	Net	Nr	Rms	Mag	Epicenter
2013	12	24	0620	32.42	40.12	19.74	1	ASN	5	0.2	2.6	HIMARE-ALBANIA

GAP=141 hor.err=1km ver.err=1KM

STAT	SP	IPHASW	D	HRMM	SECON	AZIMU	RES	DIS	DUR	Md
TPE	SZ	IPG		0620	38.45	67	0.1	34	16	2.2
TPE	SE	ISG		0620	42.70	67	0.0	34		
SRN	SZ	IPG		0620	39.23	139	-0.1	44	18	2.4
SRN	SE	ISG		0620	44.88	139	0.0	44		
IGT	SZ	IPG		0620	47.79	141	-0.2	92		
IGT	SE	ISG		0620	59.52	141	0.1	92		
SCTE	SZ	IPG		0620	52.22	264	-0.2	102		
SCTE	SE	ISG		0621	07.44	264	0.2	102		
FNA	SZ	IPN		0621	01.30	141	-0.2	156		
FNA	SE	ISN		0621	21.43	141	0.1	156		

Y	M	D	HM	Sec	Lat	Long	Dep	Net	Nr	Rms	Mag	Epicenter
2013	12	25	0757	32.96	40.74	19.49	2	ASN	8	0.3	2.7	STRUME-FIER

GAP=328 hor.err=1km ver.err=1KM ALBANIA

STAT	SP	IPHASW	D	HRMM	SECON	AZIMU	RES	DIS	DUR	Md
VLO	SZ	IPG		0757	40.09	217	-0.4	38	27	2.7
VLO	SE	ISG		0757	46.18	217	0.1	38		
TPE	SZ	IPG		0757	42.43	157	-0.8	54	24	2.6
TPE	SE	ISG		0757	51.15	157	0.2	54		
TIR	SZ	IPG		0757	45.63	7	0.1	68	29	2.8
TIR	SE	ISG		0757	55.16	7	0.1	68		
SRN	SZ	IPG		0757	51.00	167	0.2	98		
SRN	SE	ISG		0758	03.81	167	-0.3	98		
PHP	SZ	IPG		0757	53.64	28	-0.7	119		
PHP	SE	ISG		0758	10.90	28	0.4	119		
FNA	SZ	IPN		0757	57.50	87	0.0	137		

```
 FNA  SE ISN      0758 15.51     87       -0.4      137
 IGT  SZ IPN      0757 58.67     160       0.1      143
 IGT  SE ISN      0758 17.98     160       0.3      143
 BCI  SZ IPN      0758 04.64     7        -0.2      182
 BCI  SE ISN      0758 28.22     7        -0.5      182


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 25 0246 18.26   41.21  20.05  7    ASN 4  0.1 2.4 ELBASAN-ALBANIA
 GAP=190                  hor.err=1km        ver.err=12KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      1011 16.20     304       0.1      23  13     2
 TIR  SE ISG      1011 19.50     304      -0.1      23
 PHP  SZ IPG      1011 22.21     30        0.0      58 19     2.4
 PHP  SE ISG      1011 30.10     30        0.0      58
 FNA  SZ IPG      1011 32.58     114      -0.2      119
 FNA  SE ISG      1011 48.73     114       0.1      119
 BCI  SZ IPG      1011 34.82     0         0.9      126
 BCI  SE ISG      1011 51.09     0         0.6      126


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 25 0718 11.37   40.42  19.93  9    ASN 7  0.1 2.7 QESARAT-TEPELEN
 GAP=234                  hor.err=1km        ver.err=2KM      -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TPE  SZ IPG      0718 14.23     153      -0.5      15  18     2.4
 TPE  SE ISG      0718 17.29     153       0.0      15
 VLO  SZ IPG      0718 18.52     279       0.1      37  18     2.4
 VLO  SE ISG      0718 23.65     279      -0.1      37
 SRN  SZ IPG      0718 22.23     174      -0.1      60  19     2.4
 SRN  SE ISG      0718 30.62     174       0.1      60
 TIR  SZ IPG      0718 30.57     358       0.8      103     19     2.4
 TIR  SE ISG      0718 44.47     358       0.9      103
 IGT  SZ IPG      0718 29.17     160      -0.7      104
 IGT  SE ISG      0718 44.50     160       0.6      104
 FNA  SZ IPN      0718 33.12     71       -1.1      130
 FNA  SE ISN      0718 51.00     71       -0.4      130
 PHP  SZ IPN      0718 37.48     16        0.5      147
 PHP  SE ISN      0718 57.18     16        0.9      147
 BCI  SZ IPN      0718 47.45     3        -0.5      217
BCI  SE ISN      0719 15.13     3        -0.3      217


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 27 0700 20.43   41.23  20.04  7    ASN 4  0.1 2.8 KRRABE-ELBASAN
```

```
 GAP=171                  hor.err=2km         ver.err=19KM    -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      0700 31.45     30        0.0      60   24     2.6
 PHP  SE ISG      0700 39.74     30        0.1      60
 PUK  SZ IPG      0700 36.70     351       0.1      91 33     2.8
 PUK  SE ISG      0700 49.11     351      -0.2      91
 TPE  SZ IPG      0700 38.33     184       0.1      104     30     2.8
 TPE  SE ISG      0700 53.25     184       0.1      104
 BCI  SZ IPN      0700 42.03     0         0.8      126    33     2.9
 BCI  SE ISN      0700 59.57     0         0.6      126


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 27 0744 07.78   41.18  20.08  9    ASN 4  0.1 2.2 KRRABE ELBASAN
 GAP=203                  hor.err=1km         ver.err=5KM     -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      0744 13.00     314       0.1      26  13     2
 TIR  SE ISG      0744 16.69     314      -0.1      26
 PHP  SZ IPG      0744 19.10     27       -0.1      62 15     2.2
 PHP  SE ISG      0744 27.81     27        0.0      62
 PUK  SZ IPG      0744 24.94     341      -0.1      96 22     2.5
 FNA  SZ IPG      0744 37.96     111       0.1      118
FNA  SE ISG      0744 28.74     111       0.0      118


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 27 0746 37.79   41.20  20.09  18   ASN 4  0.1 2.9 KRRABE ELBASAN
 GAP=200                  hor.err=1km         ver.err=1KM     -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      0746 43.28     312      -0.1      25      29     2.9
 TIR  SE ISG      0746 47.10     312      -0.4      25
 PHP  SZ IPG      0746 49.30     28        0.2      62
 PHP  SE ISG      0746 57.57     28       -0.1      62
 PUK  SZ IPG      0746 54.62     351      -0.1      95
 PUK  SE ISG      0747 07.39     351       0.0      95
 FNA  SZ IPG      0746 58.45     112       0.1      118
 FNA  SE ISG      0747 13.64     112      -0.1      118


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 27 1505 10.61   41.24  20.07  13   ASN 3  0.0 2.5 KRRABE ELBASAN
 GAP=275                  hor.err=1km         ver.err=1KM     -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
```

```
TIR  SZ IPG      1505 15.23     306       0.0      21  23     2.5
 TIR  SE ISG      1505 18.59     306       0.0      21
 PHP  SZ IPG      1505 21.38     31        0.0      59 22     2.6
 PHP  SE ISG      1505 29.51     31        0.0      59
 PUK  SZ IPG      1505 26.83     351       0.0      91  20     2.5
 PUK  SE ISG      1505 39.05     351       0.0      91
```

```
Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 27 1554 42.06   40.94    19.91  8    ASN 6  0.1 2.6   BELSH
 GAP=184                  hor.err=1km         ver.err=2KM     -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      1554 50.68     356       0.2      45  23     2.6
 TIR  SE ISG      1554 56.80     356       0.0      45
 TPE  SZ IPG      1554 55.10     172       0.0      72 24     2.6
 TPE  SE ISG      1555 04.85     172      -0.1      72
 PHP  SZ IPG      1554 58.89     28        0.1      94 25     2.7
 PHP  SE ISG      1555 11.24     28       -0.2      94
 PUK  SZ IPG      1555 03.76     0         0.0      12222     2.6
 PUK  SE ISG      1555 19.79     0        -0.2      122
 FNA  SZ IPG      1555 04.52     97        0.2      126
 BCI  SZ IPN      1555 09.59     4        -0.1      159
BCI  SE ISN      1555 30.43     4         0.1      159
```

```
 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 28 0213 08.48   42.43  20.00  6    ASN 2  0.0 2.1 DRAGOBI-ALBANIA
 GAP=309                  hor.err=10km        ver.err=6KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
BCI  SZ IPG      0213 10.58     142       0.0      9    15     2.1
 BCI  SE ISG      0213 12.20     142       0.0      9
 PUK  SZ IPG      0213 16.64     193       0.0      44
 PUK  SE ISG      0213 22.72     193       0.0      44
```

```
Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 28 1000 04.46   42.19    19.56  17   ASN 3  0.1 2  SHKODRA
 GAP=309298                  hor.err=1km         ver.err=2KM   -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PUK  SZ IPG      1000 10.42     121       0.0      31  11     2
 PUK  SE ISG      1000 15.39     121       0.0      31
BCI  SZ IPG      1000 12.82     64        0.1      45   12     2.1
 BCI  SE ISG      1000 19.23     64        0.0      45
 PHP  SZ IPG      1000 21.45     127       0.3      91
```

```
PHP  SE ISG      1000 32.65     127      -0.1      91


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 28 1723 53.08   41.09  20.16  4    ASN 5  0.3 2.4  SHUSHICE-
GAP=211                 hor.err=2km         ver.err=3KMALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
TIR  SZ IPG      1724 00.27     319      -0.2      37  16     2.2
 TIR  SE ISG      1724 06.46     319       0.0      37
PHP  SZ IPG      1724 05.46     19       -0.4      69  16     2.4
 PHP  SE ISG      1724 15.30     19       -0.4      69
 PUK  SZ IPG      1724 11.81     348      -0.9      10720     2.5
PUK  SE ISG      1724 27.63     348       0.1      107
 FNA  SZ IPG      1724 12.08     108       0.3      109
 FNA  SE ISG      1724 28.48     108      -0.5      109
BCI  SZ IPN      1724 19.31     357       0.3      141
 BCI  SE ISN      1724 38.20     357       0.4      141


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 28 1745 43.08   41.88    20.39  21   ASN 2  0.1 1.6  LUSEN-KUKES
 GAP=238                 hor.err=2km         ver.err=13KM     -ALBANIA

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PHP  SZ IPG      1745 48.38     171       0.1      22   6      1.5
 PHP  SE ISG      1745 52.09     171      -0.1      22
 PUK  SZ IPG      1745 51.81     293      -0.1      45  8      1.6
 PUK  SE ISG      1745 58.55     293       0.1      45


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 29 0615 59.46   39.84    21.23  5    ASN 7  0.6 3.6    GREECE
 GAP=241                 hor.err=2km         ver.err=3KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
SRN  SZ IPG      0616 18.48     273      -0.2      106 39    3.1
 SRN  SE ISG      0616 32.41     273      -0.3      106
 TPE  SZ IPG      0616 19.27     297      -0.5      116     75    3.6
 TPE  SE ISG      0616 35.62     297      -0.5      116
 VLO  SZ IPN      0616 27.48     296      -1.0      164     60    3.5
 VLO  SE ISN      0616 51.51     296      -1.0      164
TIR  SZ IPN      0616 34.24     326      -0.3      203  74   3.7
 TIR  SE ISN      0617 02.14     326       0.4      203
 PHP  SZ IPN      0616 36.45     343      -0.5      215
 PHP  SE ISN      0617 05.39     343       0.3      215
 PUK  SZ IPN      0616 44.69     336       0.3      269
```

```
PUK  SE ISN      0617 18.35     336       0.3      269
 BCI  SZ IPN      0616 48.88     342       0.8      297
BCI  SE ISN      0617 23.81     342      -0.6      297


Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 29 0654 59.20   42.86    17.40  7    ASN 7  0.4 4.6    CROATIA
 GAP=318                  hor.err=20km         ver.err=10KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
PUK  SZ IPN      0655 36.63     112      -0.4      224 207   4.6
 PUK  SE ISN      0656 05.82     112       0.2      224
 BCI  SZ IPN      0655 36.81     103      -0.4      226      204   4.6
 BCI  SE ISN      0656 07.30     103       1.2      226
 TIR  SZ IPN      0655 41.70     128      -0.6      264      213   4.7
 TIR  SE ISN      0656 14.60     128       0.1      264
 PHP  SZ IPN      0655 45.48     116       0.6      283
 PHP  SE ISN      0656 19.26     116       0.2      283
 VLO  SZ IPN      0655 50.10     145       0.6      318
 VLO  SE ISN      0656 26.95     145      -0.2      318
TPE  SZ IPN      0655 55.20     141       0.4      358
 TPE  SE ISN      0656 37.10     141       0.5      358
 SRN  SZ IPN      0655 59.74     145       0.1      396
SRN  SE ISN      0656 44.49     145      -0.7      396


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter

 2013 12 29 1708 42.80   41.51    14.50  43   ASN 7  0.2 5.3    ITALY
 GAP=321                  hor.err=2km          ver.err=1KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
VLO  SZ IPN      1709 45.75     103       0.3      436 230   5.3
 VLO  SE ISN      1710 32.46     103       0.1      436
TIR  SZ IPN      1709 47.03     90       -0.1      449 240   5.3
 TIR  SE ISN      1710 35.31     90       -0.1      449
 PUK  SZ IPN      1709 47.83     80        0.3      452
 PUK  SE ISN      1710 36.01     80        0.1      452
 BCI  SZ IPN      1709 50.45     76        0.3      471
BCI  SE ISN      1710 40.45     76       -0.1      471
 TPE  SZ IPN      1709 51.43     104      -0.3      483
 TPE  SE ISN      1710 43.33     104       0.1      483
PHP  SZ IPN      1709 53.14     85       -0.2      496
 PHP  SE ISN      1710 46.27     85        0.1      496
 SRN  SZ IPN      1709 53.60     109      -0.2      499
SRN  SE ISN      1710 47.67     109       0.7      499


 Y   M   D   HM   Sec     Lat     Long   Dep  Net Nr Rms Mag    Epicenter
```

```
 2013 12 30 0610 11.19   39.79    20.76  28   ASN 6  0.6 2.9    GREECE
 GAP=251                  hor.err=5km         ver.err=3KM

 STAT SP IPHASW D HRMM SECON     AZIMU     RES      DIS     DUR    Md
SRN  SZ IPG      0610 23.50     280       0.0      69   28   2.9
 SRN  SE ISG      0610 33.18     280       0.3      69
TPE  SZ IPG      0610 26.43     312      -0.2      88   29    2.9
 TPE  SE ISG      0610 38.16     312      -0.2      88
 FNA  SZ IPG      0610 33.36     24        1.0      123
 FNA  SE ISG      0610 48.06     24        0.1      123
 SCTE SZ IPG      0610 44.10     281      -0.2      201
 SCTE SE ISG      0611 05.65     281       0.2      201
PUK  SZ IPG      0610 54.33     344       0.8      344  33    3
```

PËRSHKRIM MAKROSIZMIK I TËRMETEVE TË NDJESHME NË VENDIN TONË

Intensiteti i tërmetit në epiqendër I_0 është përcaktuar me formulën $I_0=\frac{M-1}{6}$. Intensiteti I në qytete është përcaktuar nga informacioni i marrëmbi ndjeshmerinë e tërmetit nga emergjencat civile si dhe burime të tjera.

MACROSEISMIC DESCRIPTION OF EARTHQUAKES FELT IN OUR COUNTRY

The epicentral Intensity of earthquake I_0 is determined by the formula $I_0=\frac{M-1}{6}$. The felt informacion of earthquakes in inhebitance zones provide by civil emergencies and other source is used to determine the Intensity I.

Nr	D a t a (D a t e)	Kohëndodhja (Origin time)	Epiqendra dhe të dhëna makrosizmike EMS-98 (Epicenter and macroseismic data EMS-98)
1	04.12.2013	16:43:33.5	Epiqendra: 40.67V; 19.69L,11 km nëLindje të qytetit Fierit. Intensiteti i tërmetit në epiqendër I_0=IV-V balle Ndjerë: IV ballë ne qytetin e Fierit, Patosit, Rroskovecit.. (Epicentre: 40. 67N; 19. 69E, 11 kmEast of Fieritown. Epicentral Intensity I_0=IV-V. Felt: IV at Fierit, Patosit, Rroskovecit towns.
	13.12.2013	03:34:20.7	Epiqendra: 41.02V; 20.50L, ne fshatin Nimce të rrethit Kukesit. Intensiteti i tërmetit në epiqendër I_0=V balle Ndjerë: IV-V ballë ne qytetin e Kukesit. (Epicentre: 41.02N; 20.50E, at Nimce village inKukesi district. Epicentral Intensity I_0=V. Felt: IV-V at Kukesi town.

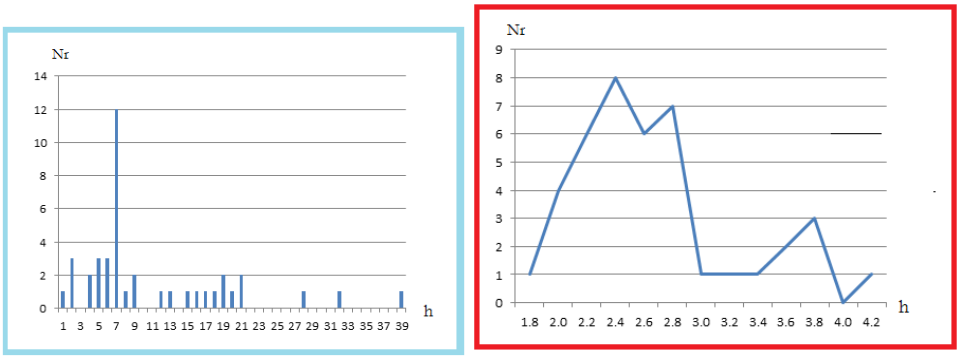
KATALOGU I TËRMETEVE MUJORE (THE MONTHLY EARTHQUAKE CATALOG)

Data Date *vvvv/mm/dd*	Koha Time *hh:mm:ss*	Gjer.Lat *(km)*	Gjat Long.	Thell.Depth	Nr. St. N_0.St	Gab Rms	Mag. (M_D)	Vendndodhja Location
2013 12 04	1643 33.51	40.67	19.69	2	7	0.2	3.8	FIER-ALBANIA
2013 12 06	1910 59.00	41.00	20.34	9	6	0.2	2.4	STRAVAJ 23KM

2013	12	06	2311	04.31	41.16	20.74	7	3	0.1 2.1 MACEDONIA
2013	12	07	0539	39.01	41.85	20.54	7	3	0.1 2.2 DIBER-ALBANIA
2013	12	07	1816	51.69	41.21	20.27	7	4	0.1 2.2 KUTURMAN
2013	12	07	1816	51.69	41.21	20.27	7	4	0.1 2.2 KUTURMAN
2013	12	08	0516	01.43	41.19	20.26	7	4	0.1 2 KUTURMAN
2013	12	08	1715	38.43	42.08	19.44	15	4	0.1 2.7 SHKODER
2013	12	09	0018	04.29	41.86	21.69	21	4	0.5 2.8 MACEDONIA
2013	12	09	1731	28.27	42.09	19.01	7	3	0.1 2.3 ADRIATIC SEA
2013	12	10	0824	30.24	41.07	19.62	39	8	0.2 2.8 ROGOZHINE
2013	12	10	1833	04.24	42.54	19.15	20	6	0.1 4.3 MONTENEGRO
2013	12	11	1011	11.58	41.23	20.09	7	4	0.1 2.2 KRRABE
2013	12	12	1021	43.59	39.62	20.50	32	9	0.2 3.9 GREECE
2013	12	12	2232	04.57	41.73	20.22	16	4	0.1 2.4 KURBNESH
2013	12	13	0132	20.15	41.74	19.94	19	4	0.1 2.3 RRESHEN
2013	12	13	0135	32.78	40.09	19.93	6	5	0.2 2.4 FTERE-ALBANIA
2013	12	13	0334	20.71	41.02	20.50	12	7	0.2 3.9 NIMCE KUKES
2013	12	13	2328	14.57	42.13	20.66	4	6	0.2 3.2 KOSOVO
2013	12	13	2340	46.81	42.14	20.71	2	7	0.5 3 KOSOVO
2013	12	14	1516	25.51	41.97	20.57	5	4	0.4 2.7 KUKES
2013	12	14	1911	41.08	40.67	19.79	6	5	0.2 2.9 BERAT
2013	12	15	2226	20.10	41.91	20.31	7	2	0.1 2 ARREN-ALBANIA
2013	12	17	2140	27.73	40.16	20.42	6	7	0.1 2.4 EAST POLICAN
2013	12	18	0409	59.29	40.18	19.66	7	5	0.1 2.4 DHERMI
2013	12	19	0512	59.16	41.97	20.28	7	2	0.0 2.1 KUKES-ALBANI
2013	12	19	1310	22.82	42.80	21.12	5	3	0.8 2.8 KOSOVO
2013	12	21	0957	09.21	43.01	19.05	19	6	0.3 3.5 MONTENEGRO
2013	12	24	0620	32.42	40.12	19.74	1	5	0.2 2.6 HIMARE-
2013	12	25	0757	32.96	40.74	19.49	2	8	0.3 2.7 STRUME-FIER
2013	12	25	0246	18.26	41.21	20.05	7	4	0.1 2.4 11 KM N
2013	12	25	0718	11.37	40.42	19.93	9	7	0.1 2.7 QESARAT-TEPELEN
2013	12	27	0700	20.43	41.23	20.04	7	4	0.1 2.8 KRRABE ELBASAN
2013	12	27	0744	07.78	41.18	20.08	9	4	0.1 2.2 KRRABE ELBASAN
2013	12	27	0746	37.79	41.20	20.09	18	4	0.1 2.9 KRRABE ELBASAN
2013	12	27	1505	10.61	41.24	20.07	13	3	0.0 2.5 KRRABE
2013	12	27	1554	42.06	40.94	19.91	8	6	0.1 2.6 BELSH
2013	12	28	0213	08.48	42.43	20.00	6	2	0.0 2.1 DRAGOBI-ALBANIA
2013	12	28	1000	04.46	42.19	19.56	17	3	0.1 2 SHKODRA
2013	12	28	1723	53.08	41.09	20.16	4	5	0.3 2.4 SHUSHICE
2013	12	28	1745	43.08	41.88	20.39	21	2	0.1 1.6 LUSEN-KUKES
2013	12	29	0615	59.46	39.84	21.23	5	7	0.6 3.6 GREECE
2013	12	30	0610	11.19	39.79	20.76	28	6	0.6 2.9 GREECE

STATISTIKA E NGJARJEVE SIZMIKE (STATISTICS OF SEISMIC EVENTS)

Karakteristikat e pergjithshme (General Characteristics)	Vlerat (Data values)
➢ *Ngjarje sizmike të ndodhura në kuadratin (39-43 V; 18.5-21.5 L)*	43
Events occured within quandrant	
➢ *Ngjarje sizmike të ndodhura brenda kufijve shtetërore*	33
Events occured inside state boundaries	
➢ *Thellësia mesatare e ngjarjeve sizmike*	11
Mean hypocenter depth	
➢ *Thellësia maksimale*	39
Maximum hypocenter depth	
➢ *Magnituda lokale minimale e regjistruar*	1.6
Minimum recorded local magnitude	
➢ *Magnituda lokale maksimale e regjistruar*	4.3
Maximum recorded local magnitude	
➢ *Intensiteti sizmik maksimal ne epiqendër*	V-VI
Maximum seismic intensity	



Grafiku i shpërndarjes së numurit të ngjarjeve sizmike mujore në vartesi të thellësisë (djathtas) magnitudës (majtas)

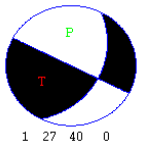
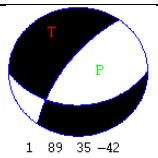
Distribution graphic of monthly seismic event number according to depth (right) magnitude (left)

Zgjidhja e mekanizmit vatror (ZMV)

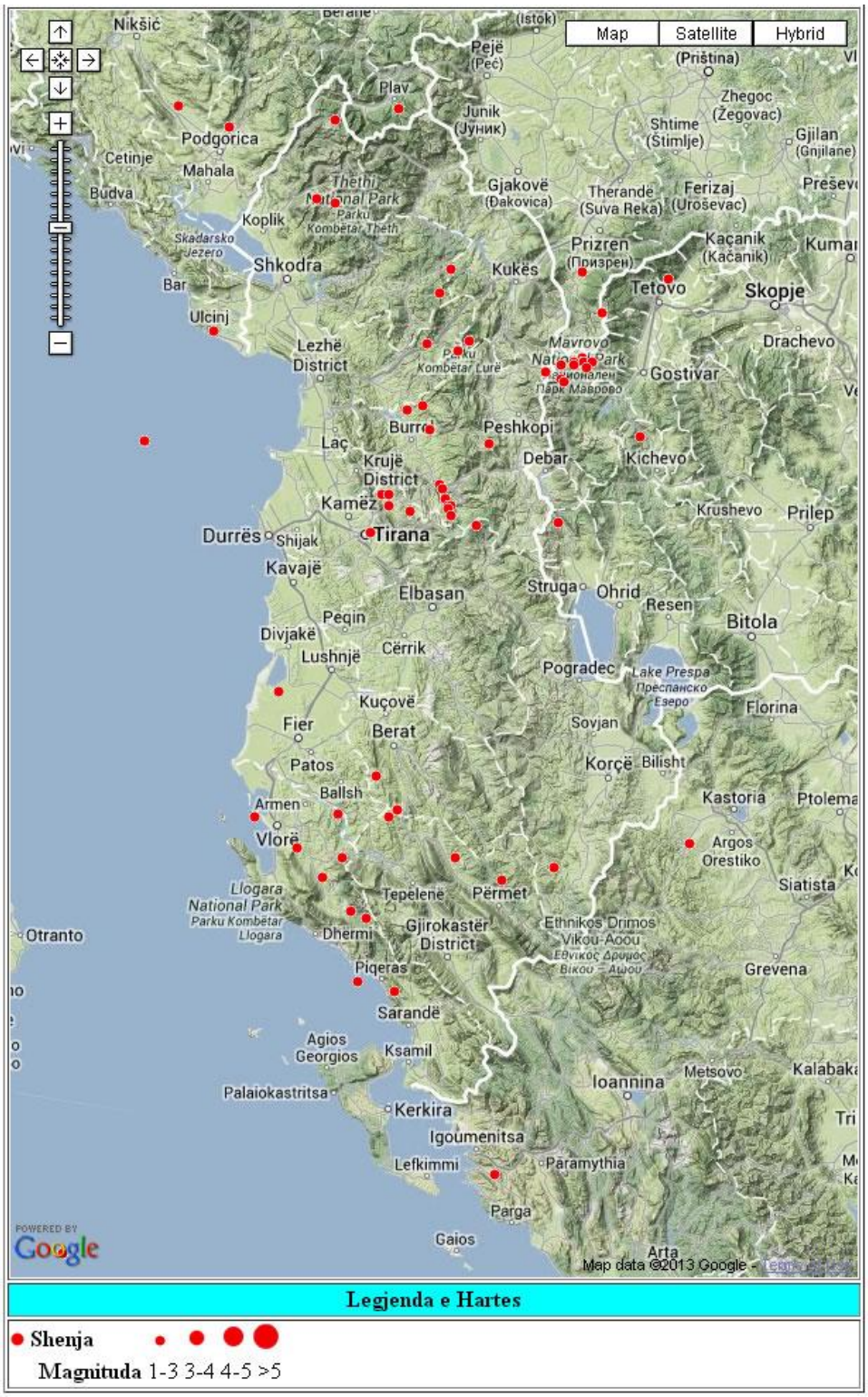
Për zgjidhjen e mekanizmit të vatres janë përdorur polaritetet e hyrjeve të para P (Pg/Pn), të përcaktuara mbi format valore që shprehin funksionin kohor të burimit sizmik perkatës, në fushën e shpejtësisë. Janë përdorur regjistrimet në bandë të gjere frekuenciale (0.2 – 30 Hz), të cilat janë modeluar nëpermjet filtrave band-pass: 1.0-5.0 Hz, 2.0-10 Hz dhe 0.1-3.0 Hz. Për të arritur zgjidhjen optimale janë përdorur edhe raporti i amplitudave të valëve volumore AMPSg/AMPPg, (AMPSn/AMPPn), të cilat janë lexuar mbi komponentet e transformuara nga sistemi koordinativ gjeografik në atë sferik (vertikal, radial dhe transversal). Eshtë realizuar një kerkim në rrjetin koordinativ me interval 5.0 – 10 grad, duke vendosur kriteret për gabimin në polaritetet e përdorura. Për zgjidhjen përfundimtare është përdorur programi FOCMEC (Snoke. et al., 1984), ndërsa për të optimizuar zgjidhjen është përdorur programi HASH (Hardebeck & Shearer, 2003).

Focal Mechanism Solution (FMS)

For focal mechanism solution, the first onset polarity of P (Pg/Pn) are used, picked on the source time function respective waveforms. This is done for the velocity field recordings. Broadband recordings are used within the frequency range 0.2-30 Hz, witch are modeled by band-pass filtering in the ranges: 1.0-5.0 Hz, To achieve the optimum solution also the amplitude ratio of the type AMPSg/AMPPg, (AMPSn/AMPPn), areused. These amplitudes are red on rotated and corrected components, from the geographic system to the spherical one (vertical, radial and transversal). A grid search at the 5.0-10 degree cells interval has been applied, setting first the allowed error threshold for polarity readings. For final solution the FOCMEC program has been used (Snoke. et al., 1984). Whereas, to optimize the solution HASHroutine(Hardebeck& Shearer, 2003), has been
applied as well.

Identifikimi i ngjarjes (Event ID)	Parametrat e burimit (Source paremeters)	Magnituda (Magnitude)	Parametrat e Mekanizmit (Focal Mechanism parameters)	Tipi (Focal Type)
2013.12.04 16:43:33	40.67 (N) 19.69 (E) 2 (km)	3.8	P1: 27^0, 40^0, 00^0 P2: 297^0, 90^0, 130^0 T: 240, 33 P: 355, 33	
2013.12.13 03:34:70	41.02 (N) 20.50 (E) 12 (km)	3.9	P1: 89^0, 35^0, -42^0 P2: 215^0, 67^0, -118^0 T: 326, 18 P: 88, 58	

Harta e epiqendrave të tërmeteve


Map
Satellite
Hybrid
Nikšić
Pejë (Peć)
(Priština)
Plav
Junik (Јуник)
Zhegoc (Žegovac)
Shtime (Štimlje)
Gjilan (Gnjilane)
Podgorica
Cetinje
Mahala
Budva
Thethi National Park
Parku Kombëtar Thethi
Gjakovë (Đakovica)
Therande (Suva Reka)
Ferizaj (Uroševac)
Koplik
Skadarsko Jezero
Shkodra
Bar
Kukës
Prizren (Призрен)
Kaçanik (Kačanik)
Tetovo
Skopje
Ulcinj
Lezhë District
Mavrovo National Park
Gostivar
Drachevo
Burrel
Peshkopi
Laç
Krujë District
Debar
Kichevo
Kamëz
Krushevo
Prilep
Durrës
Shijak
Tirana
Kavajë
Elbasan
Struga
Ohrid
Resen
Bitola
Peqin
Divjakë
Lushnjë
Cërrik
Pogradec
Lake Prespa
Преспанско Езеро
Florina
Kuçovë
Fier
Berat
Sovjan
Patos
Korçë
Bilisht
Ballsh
Armen
Kastoria
Ptolema
Vlorë
Argos Orestiko
Siatista
Llogara National Park
Parku Kombëtar Llogara
Tepelenë
Përmet
Otranto
Dhermi
Gjirokastër District
Ethnikos Drimos Vikou-Aoou
Εθνικός Δρυμός Βίκου - Αώου
Piqeras
Grevena
Sarandë
Agios Georgios
Ksamil
Palaiokastritsa
Ioannina
Metsovo
Kalabaka
Kerkira
Igoumenitsa
Lefkimmi
Paramythia
Parga
Gaios
Arta
POWERED BY Google
Map data ©2013 Google
Legjenda e Hartes
Shenja
Magnituda 1-3 3-4 4-5 >5