

Apêndice

Detonações Realizadas no Canteiro de Obras da UHE Santo Antônio

Maio 2012

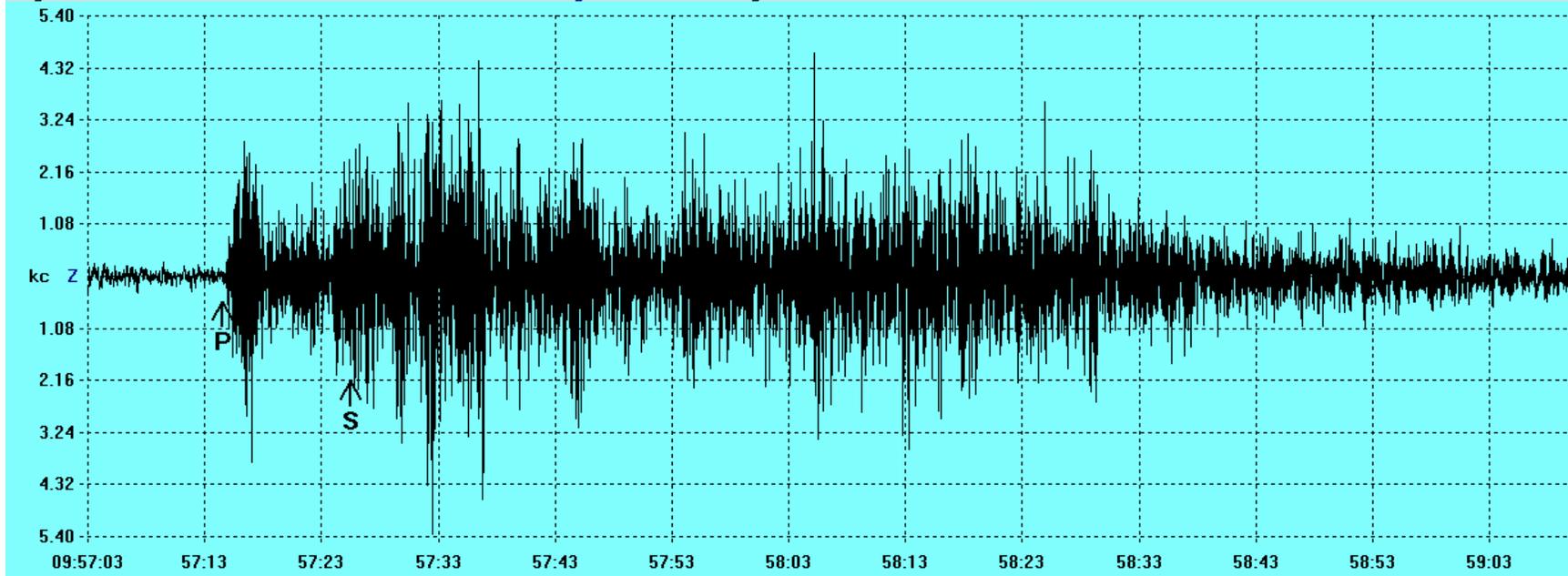
Registros das Estações SAML, SANT1 e SANT2

Observação

Todos os registros da estação SAML mostrados nesta seção foram filtrados com um filtro do tipo high-pass (acima de 1.0 Hz, com 4 polos). Quando foi empregado outro tipo de filtro, o procedimento foi indicado em cada caso. Todos os registros das estações SANT1 e SANT2 mostrados nesta seção foram filtrados com um filtro do tipo high-pass acima de 0.1 Hz.

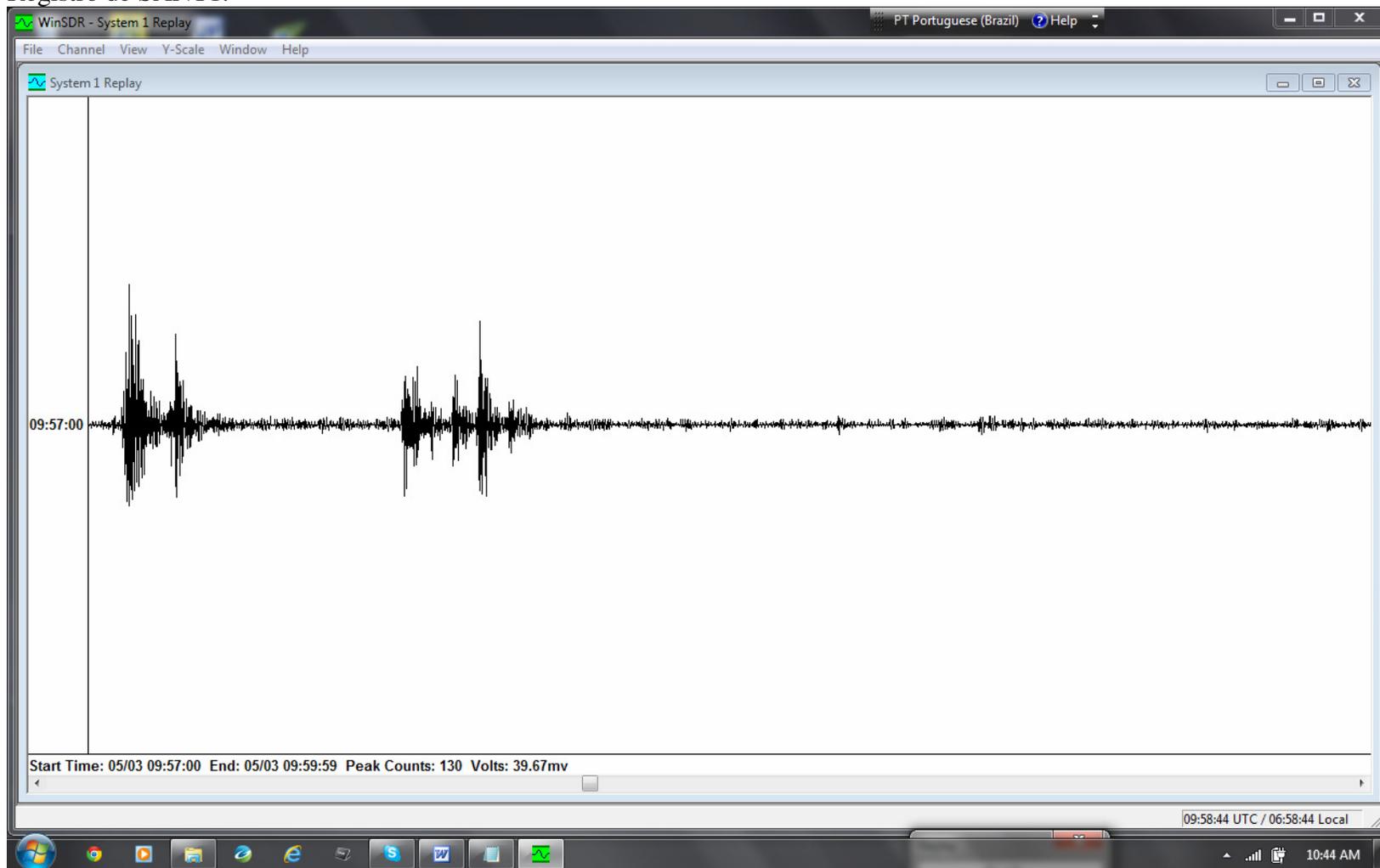
Registro de SAML:

Start: 5/03/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 5178/-5344 X: 2.07.0 Y: 5.4kc
Org: 9:56:59.6 P: 9:57:14.5 S: 9:57:25.5 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



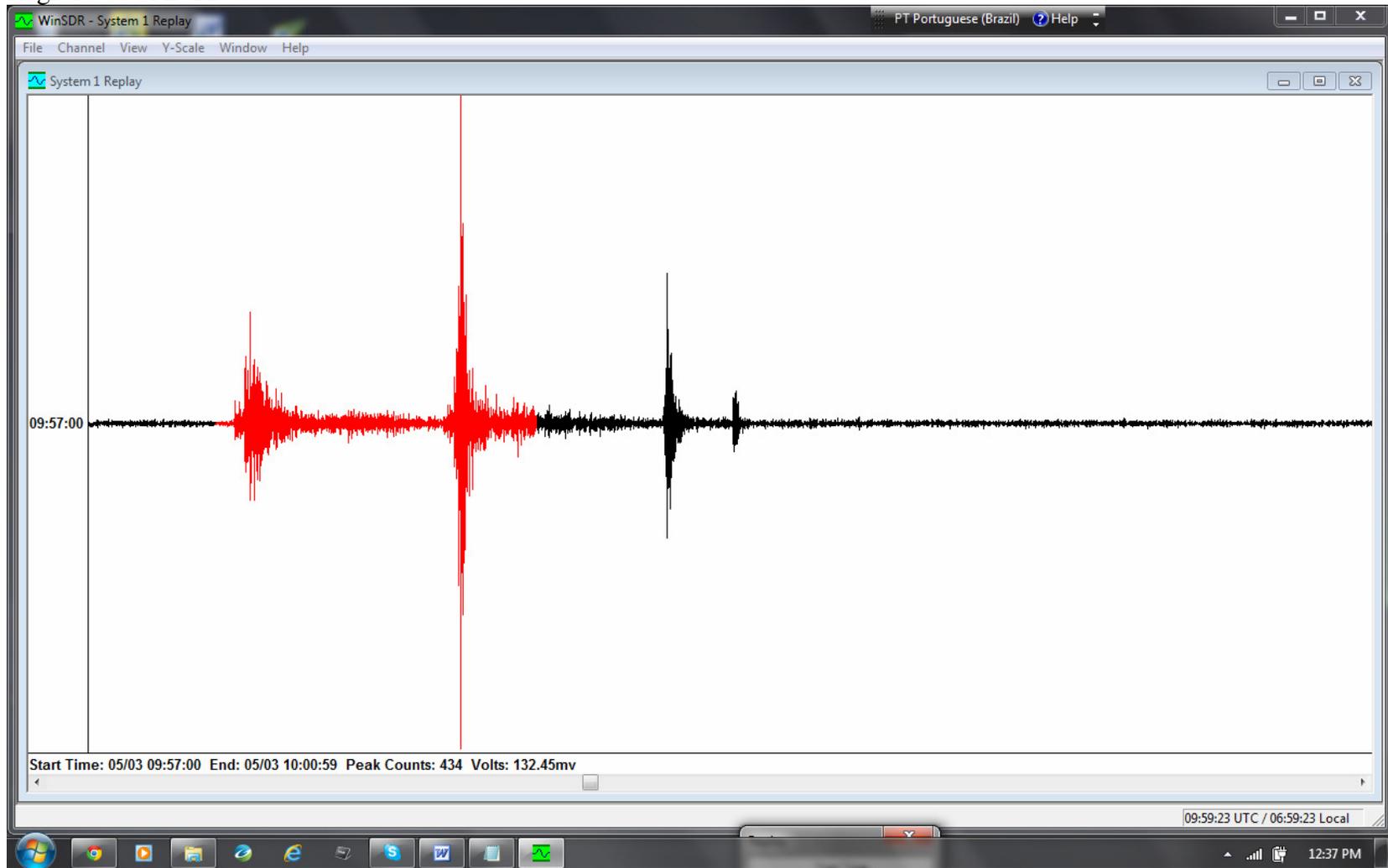
Evento 1

Registro de SANT1:



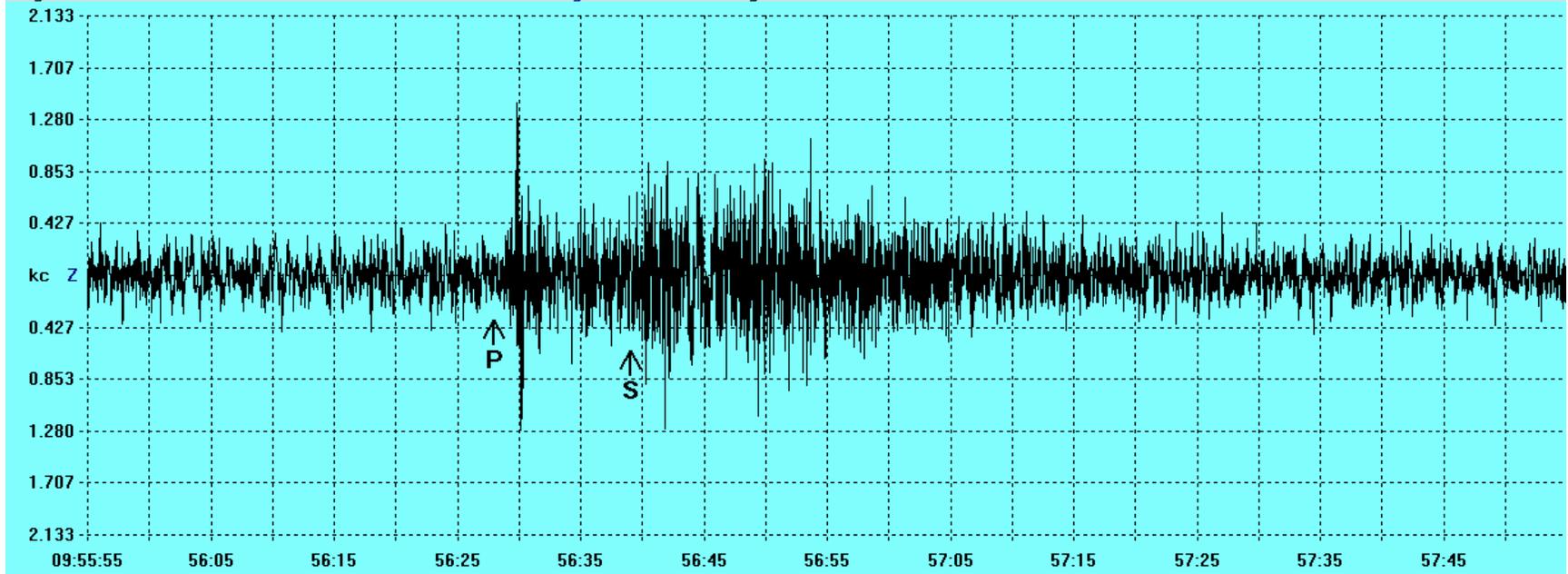
Evento 1

Registro de SANT2:



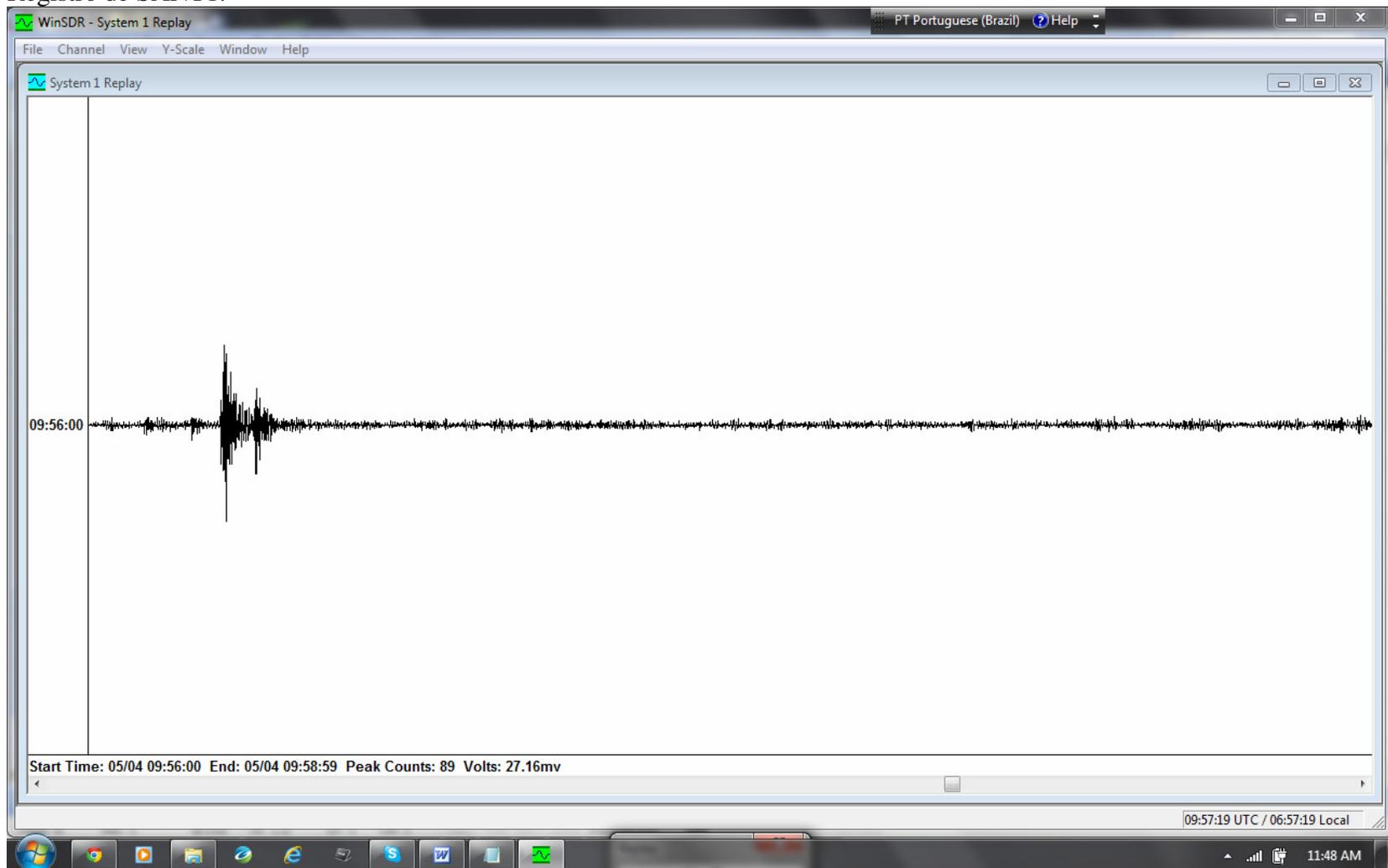
Evento 1

Start: 5/04/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 3156/-2179 X: 2.00.0 Y: 2.13333kc
Org: 9:56:13.1 P: 9:56:28.0 S: 9:56:39.0 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



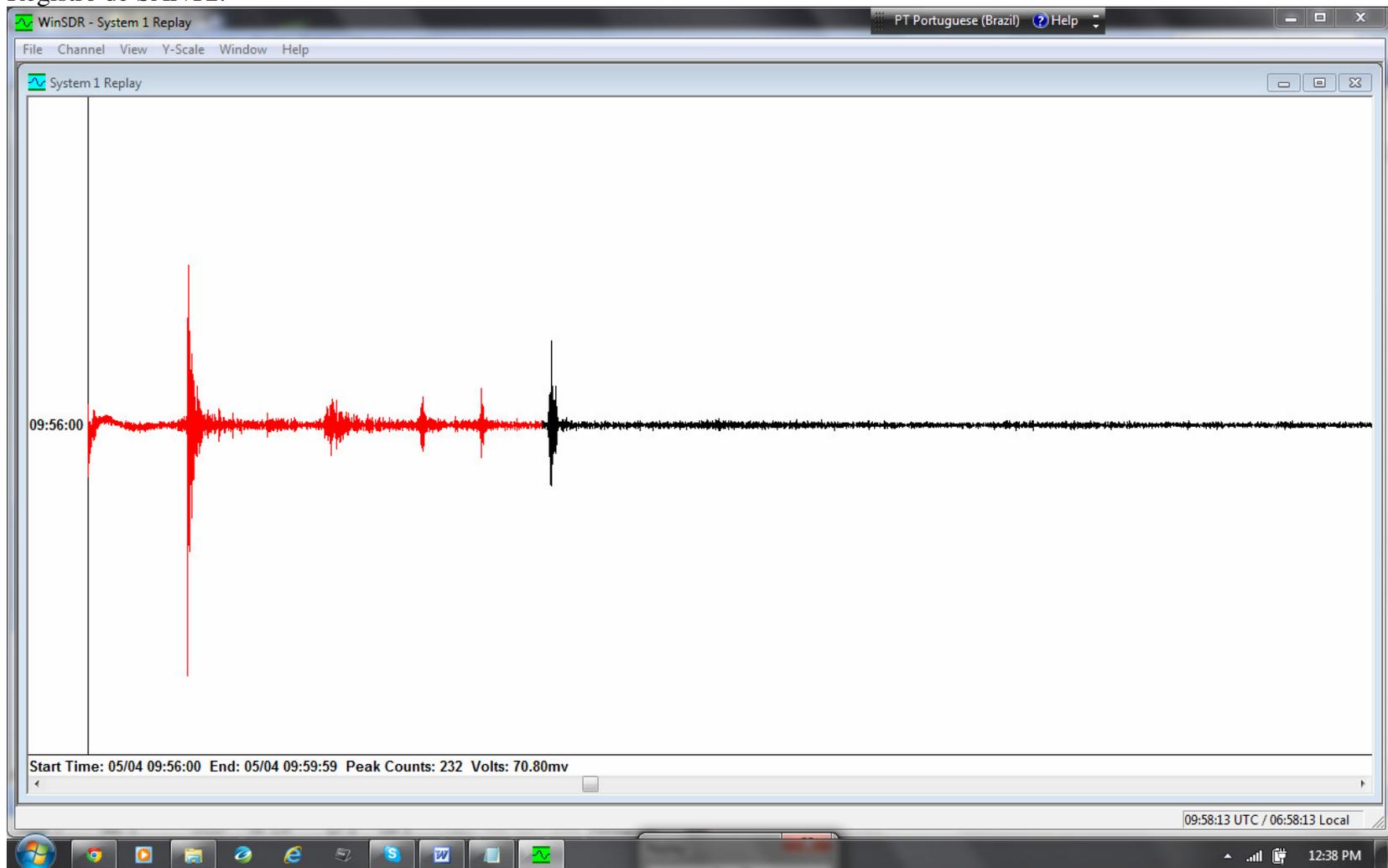
Evento 2

Registro de SANT1:



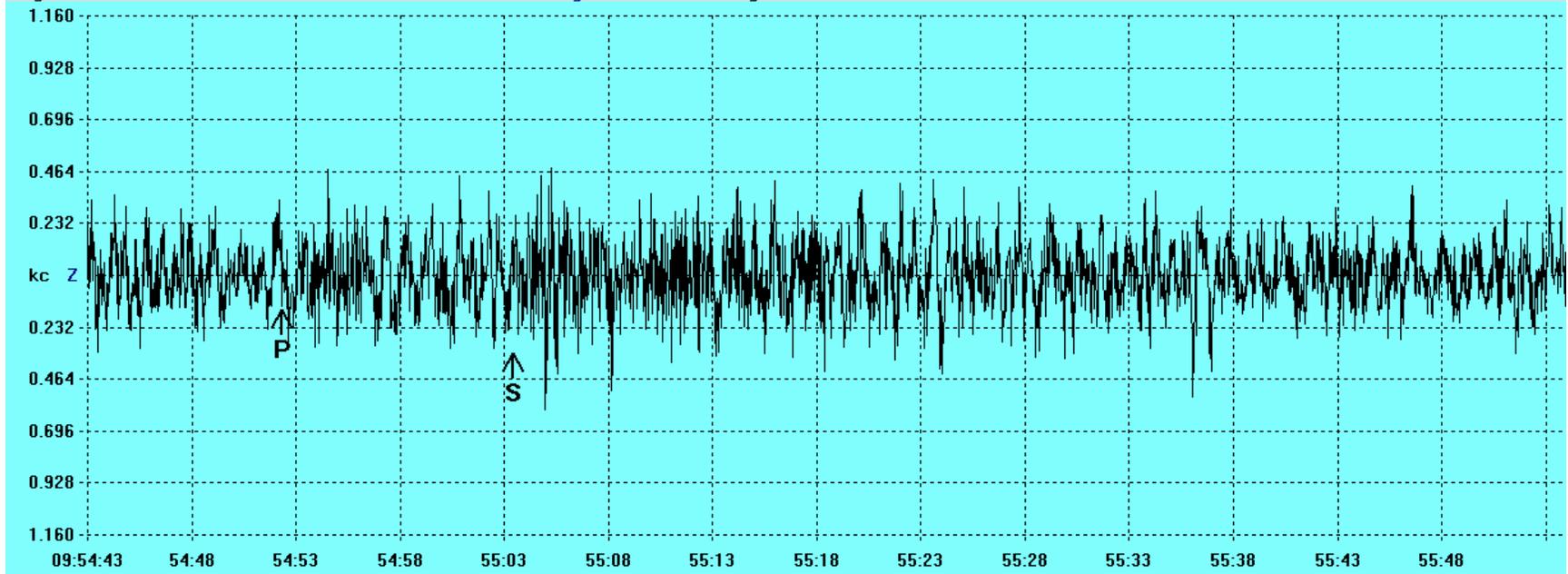
Evento 2

Registro de SANT2:



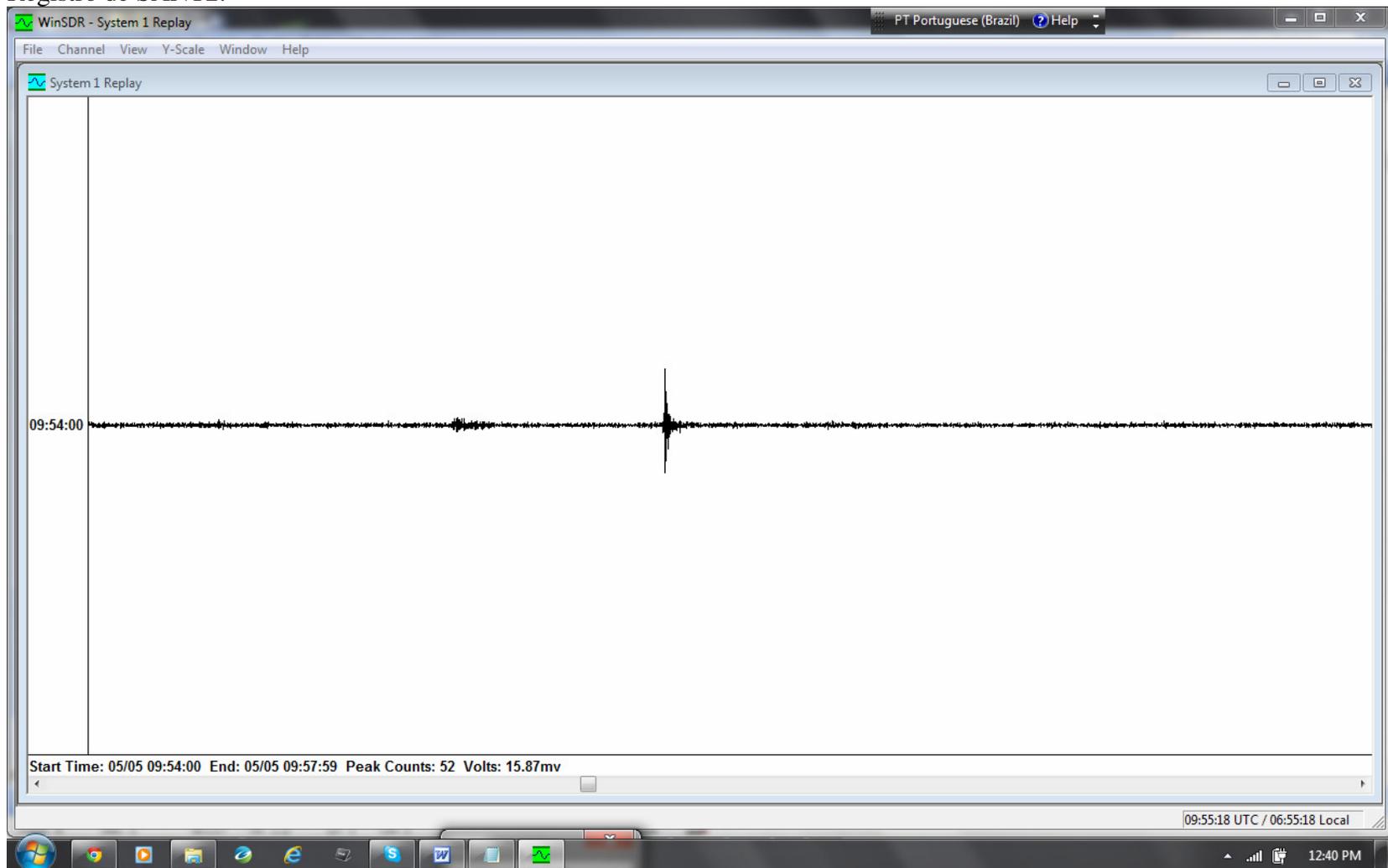
Evento 2

Start: 5/05/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 2876/-1589 X: 1:11.0 Y: 1.16kc
Org: 9:54:37.3 P: 9:54:52.3 S: 9:55:03.4 Diff: 11.1sec Dist: 0.783deg 87.0km 54.1mi Mag: MI?? JB: 33



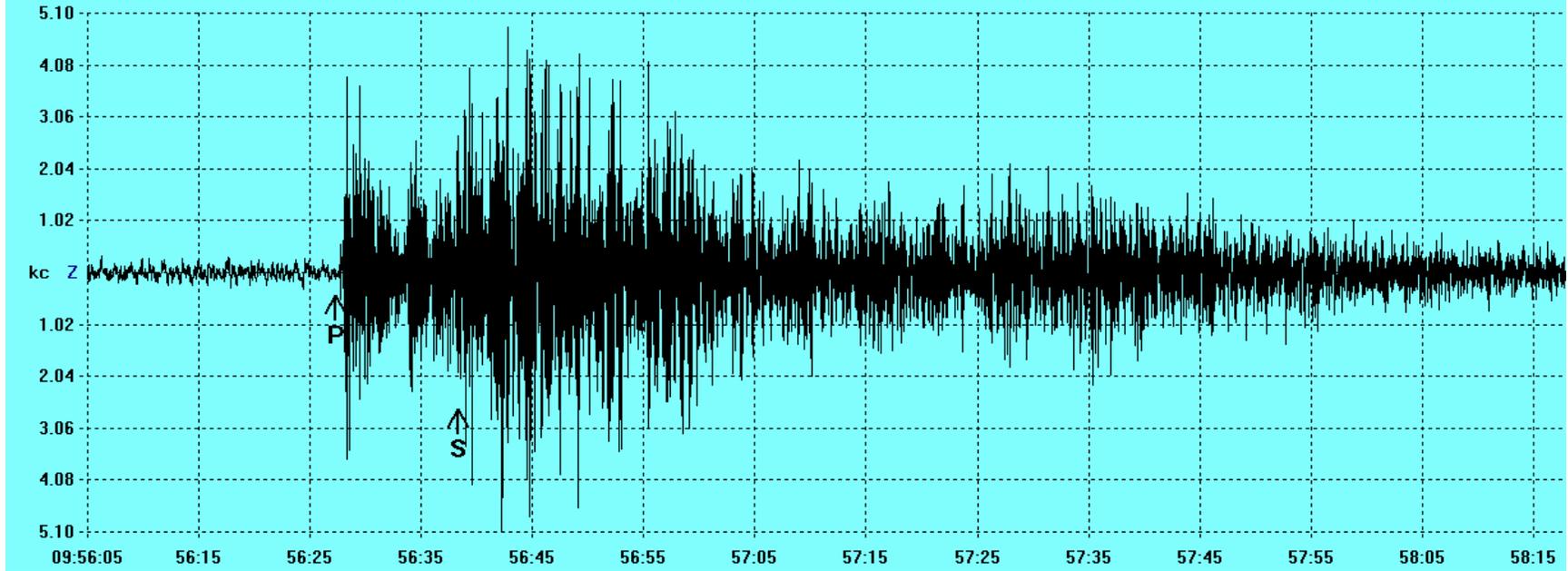
Evento 3

Registro de SANT2:



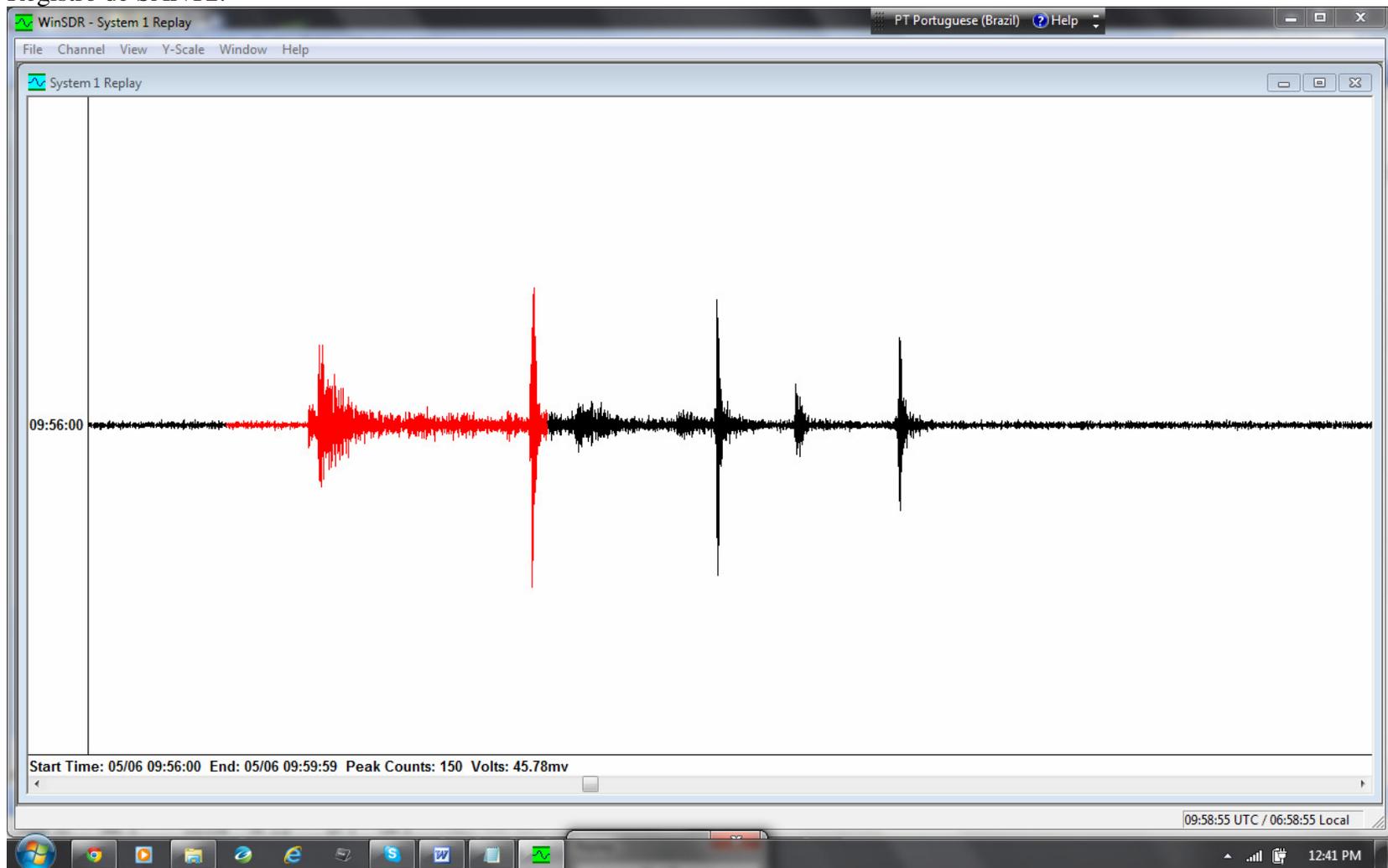
Evento 3

Start: 5/06/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 4830/-5075 X: 2:13.0 Y: 5.1kc
Org: 9:56:12.4 P: 9:56:27.3 S: 9:56:38.3 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



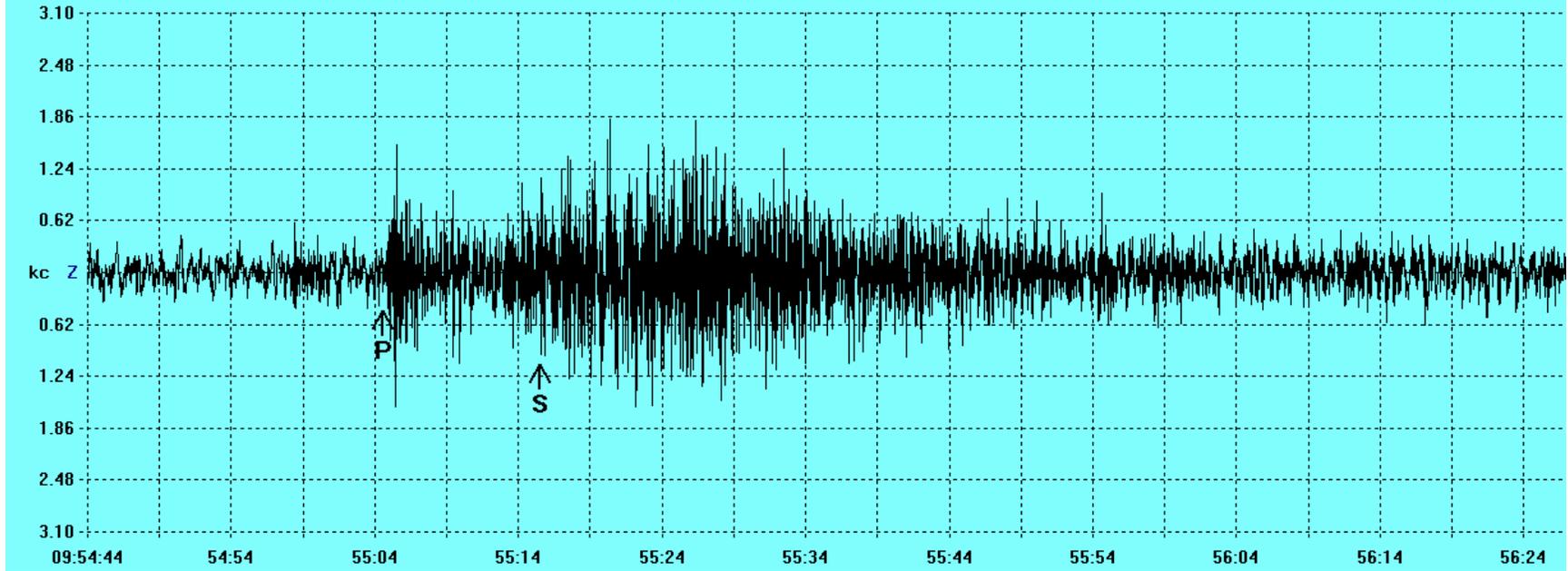
Evento 4

Registro de SANT2:



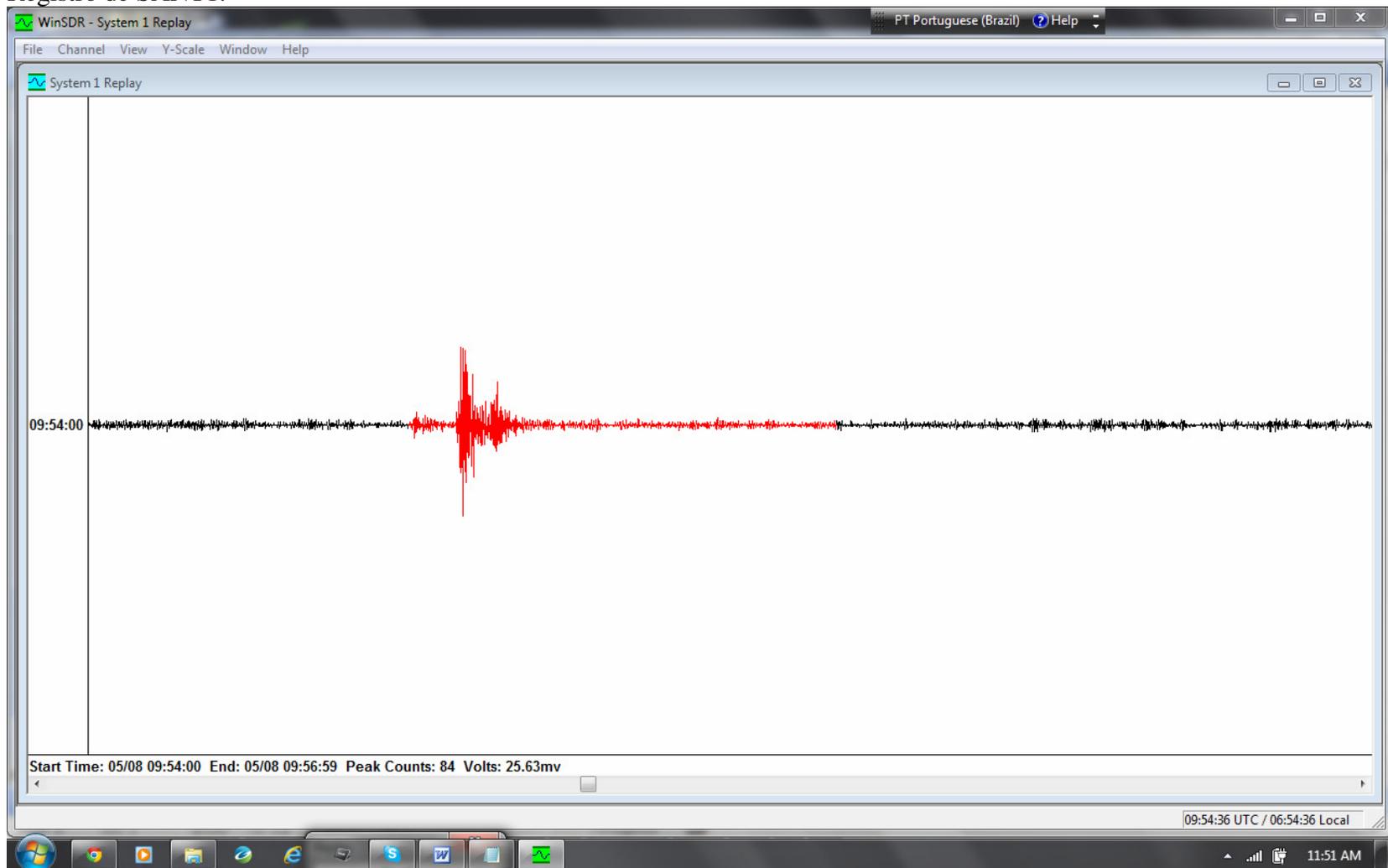
Evento 4

Start: 5/08/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 3083/-2271 X: 1:43.0 Y: 3.1kc
Org: 9:54:49.6 P: 9:55:04.5 S: 9:55:15.5 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



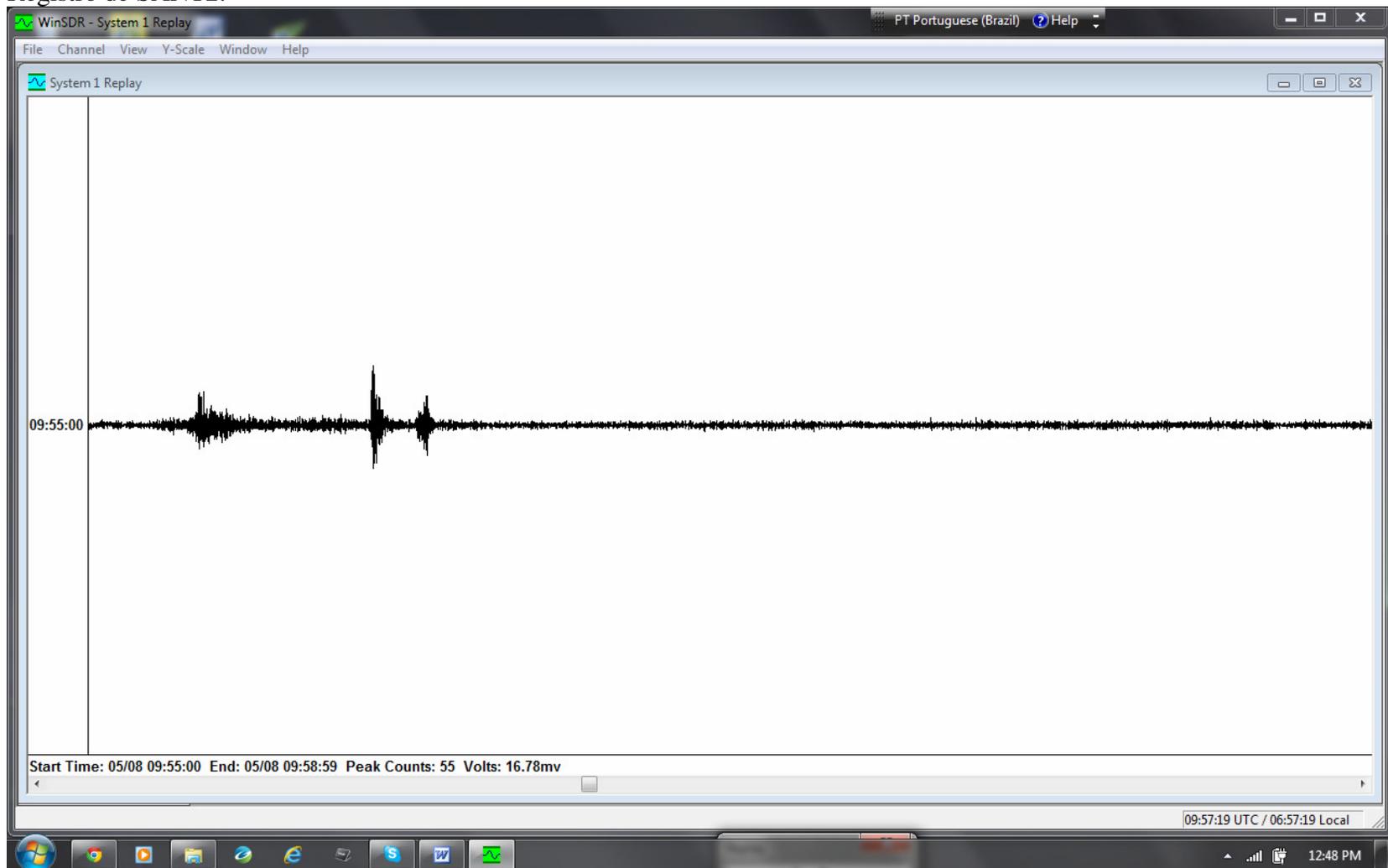
Evento 5

Registro de SANT1:



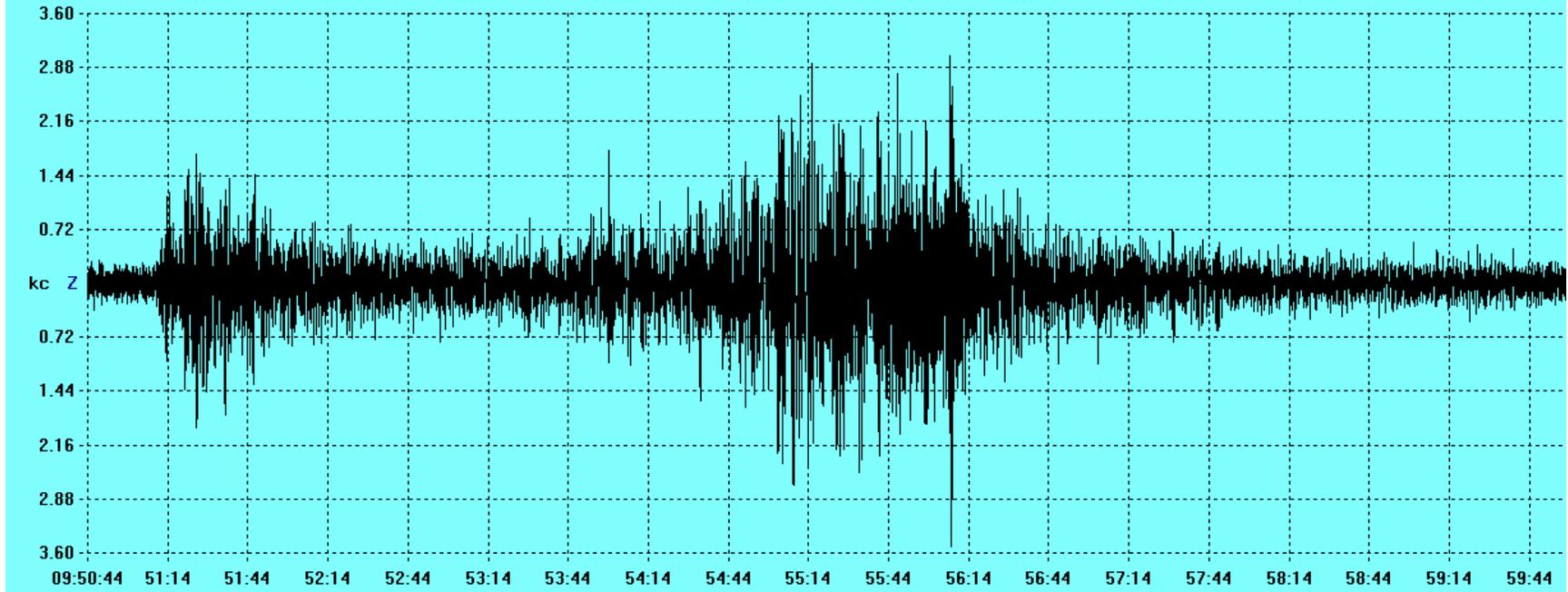
Evento 5

Registro de SANT2:



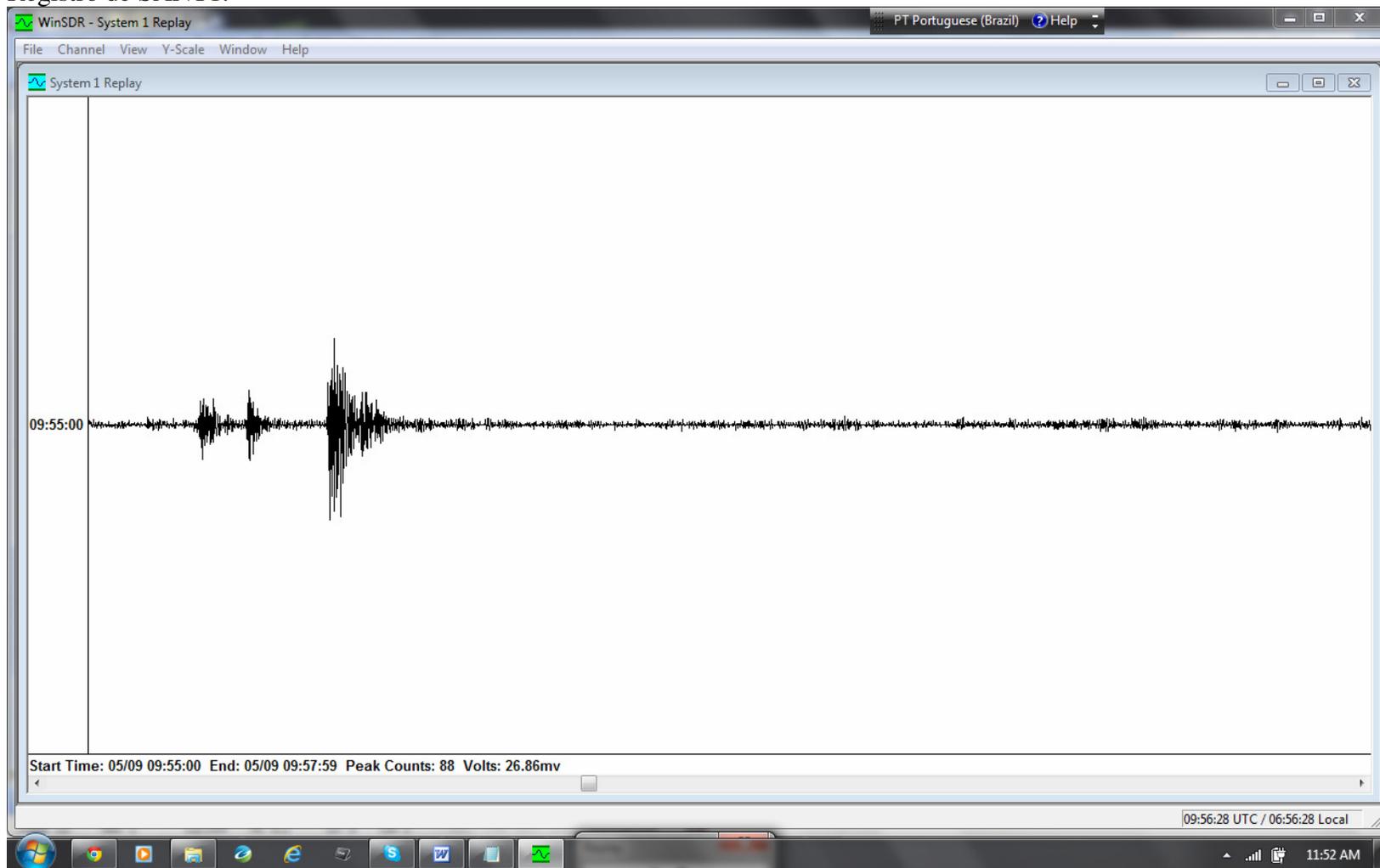
Evento 5

Start: 5/09/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 3032/-3522 X: 9:14.0 Y: 3.6kc



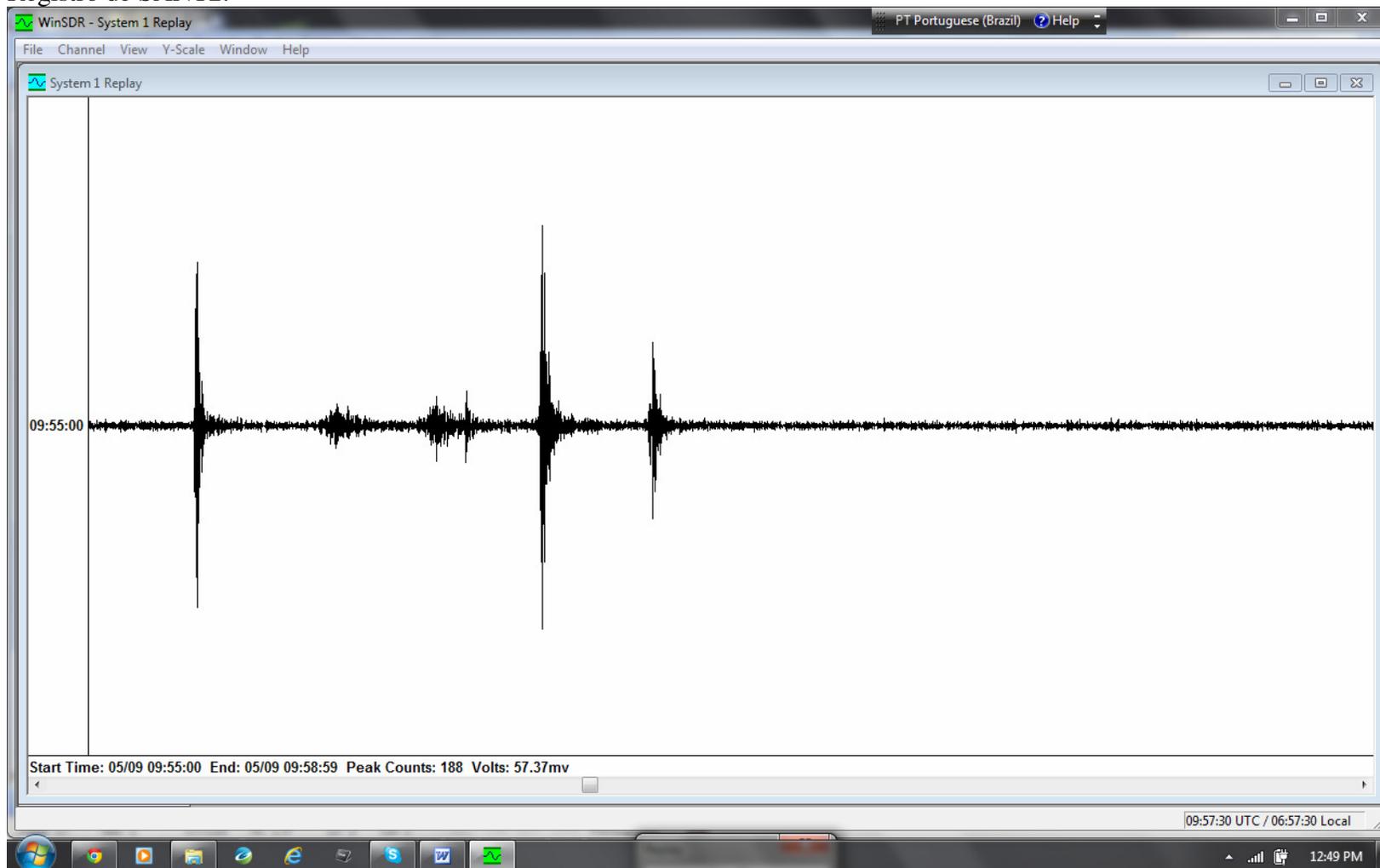
Evento 6 – registrado, mas não identificado em SAML (superposto a evento telessísmico).

Registro de SANT1:



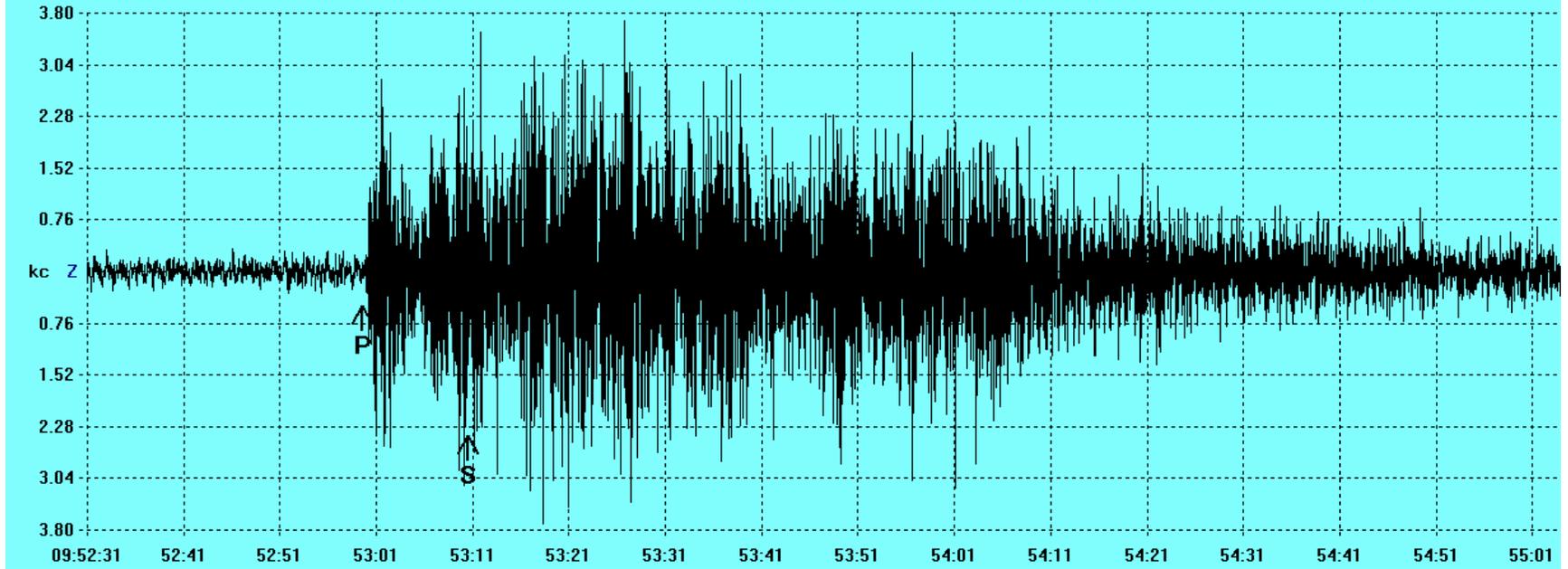
Evento 6

Registro de SANT2:



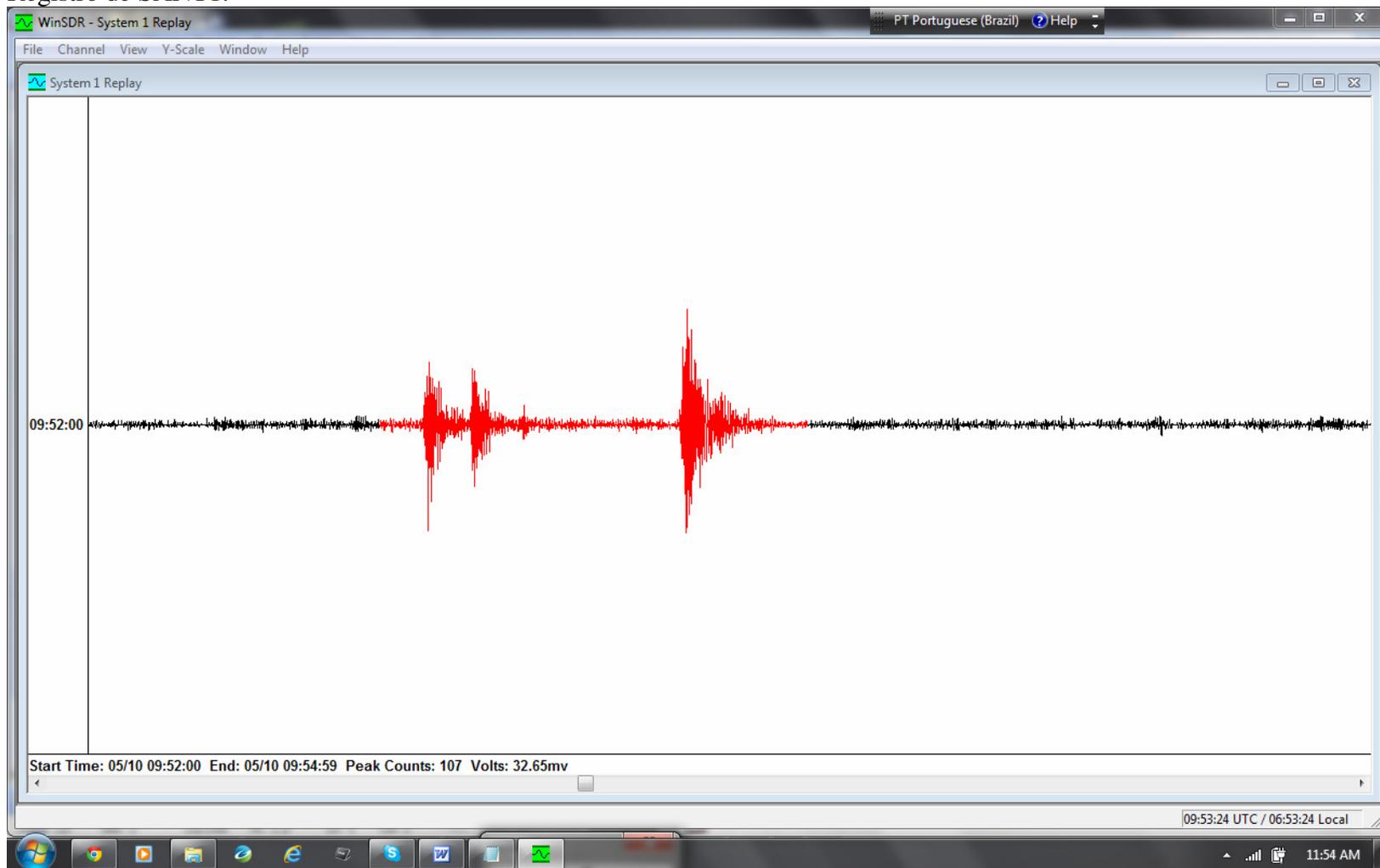
Evento 6

Start: 5/10/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 3696/-3715 X: 2.33.0 Y: 3.8kc
Org: 9:52:44.6 P: 9:52:59.5 S: 9:53:10.5 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



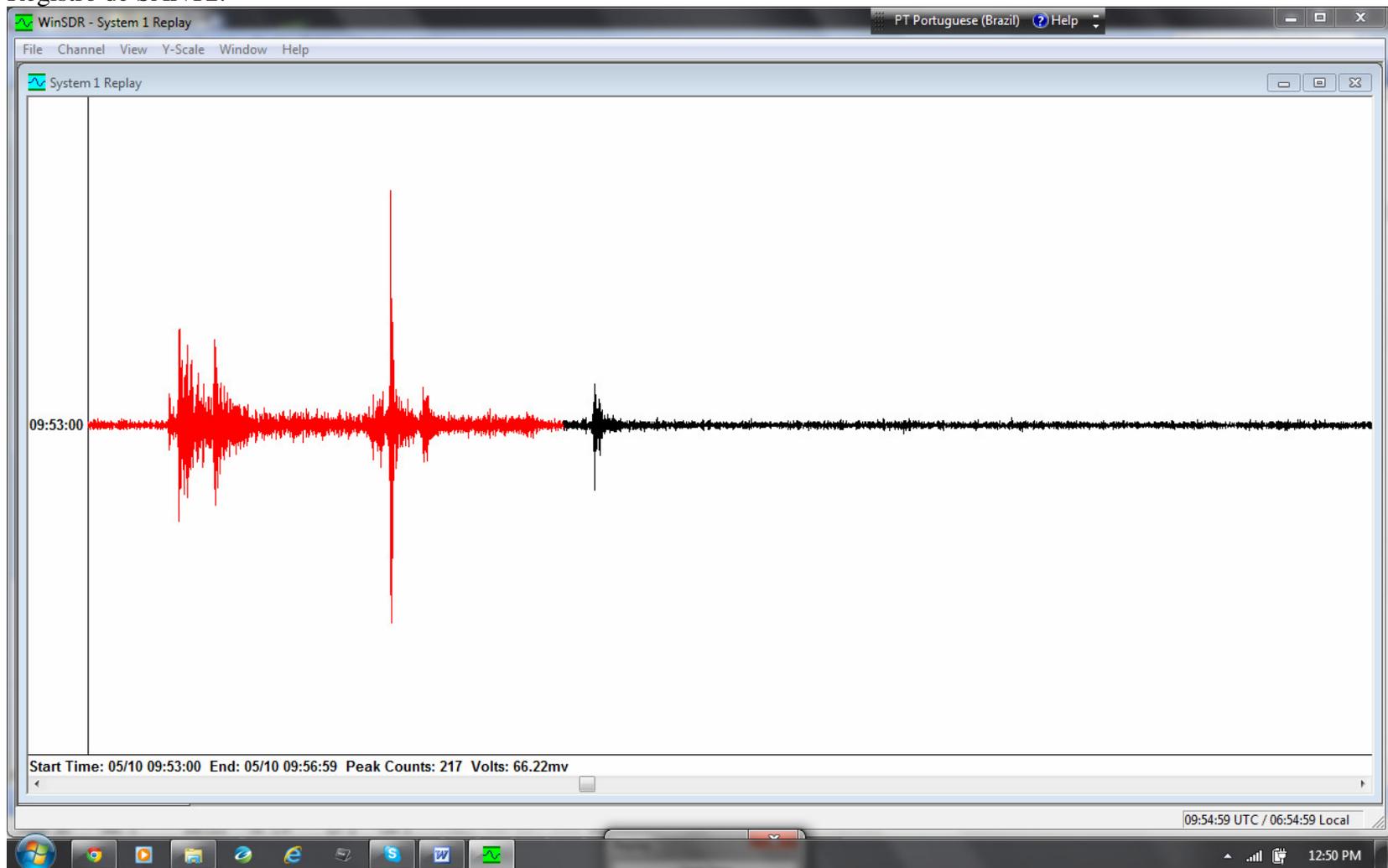
Evento 7

Registro de SANT1:



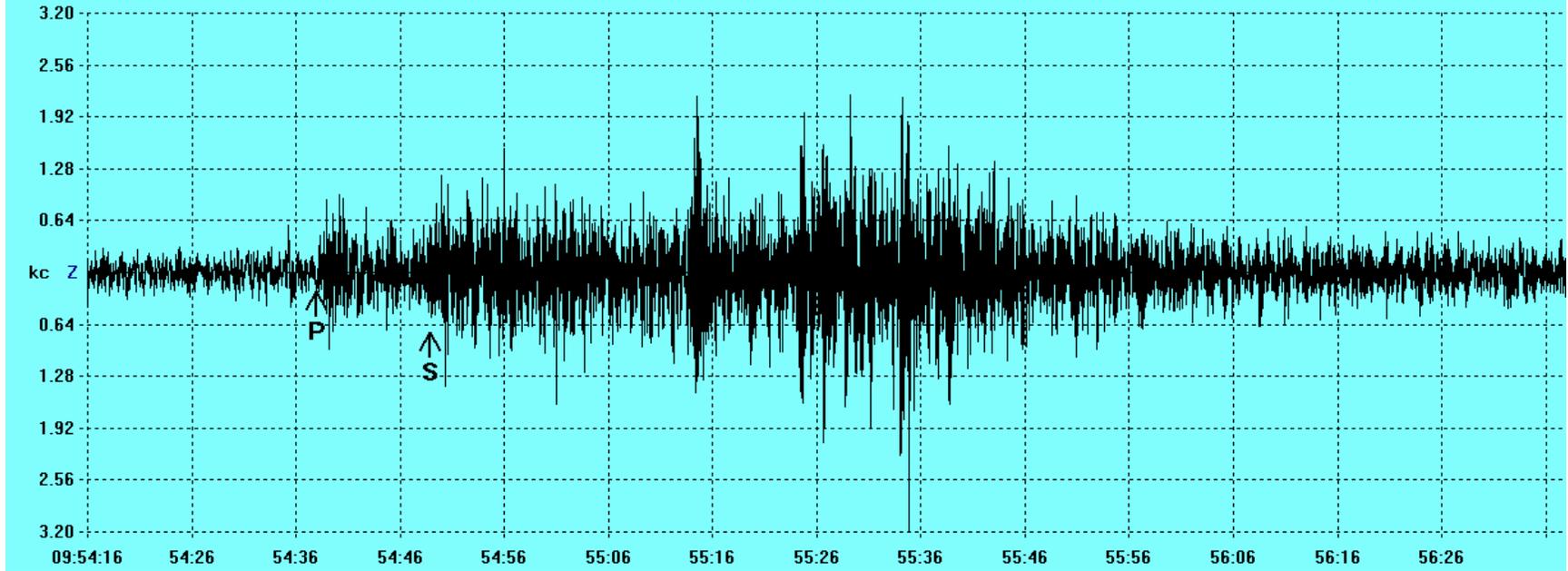
Evento 7

Registro de SANT2:



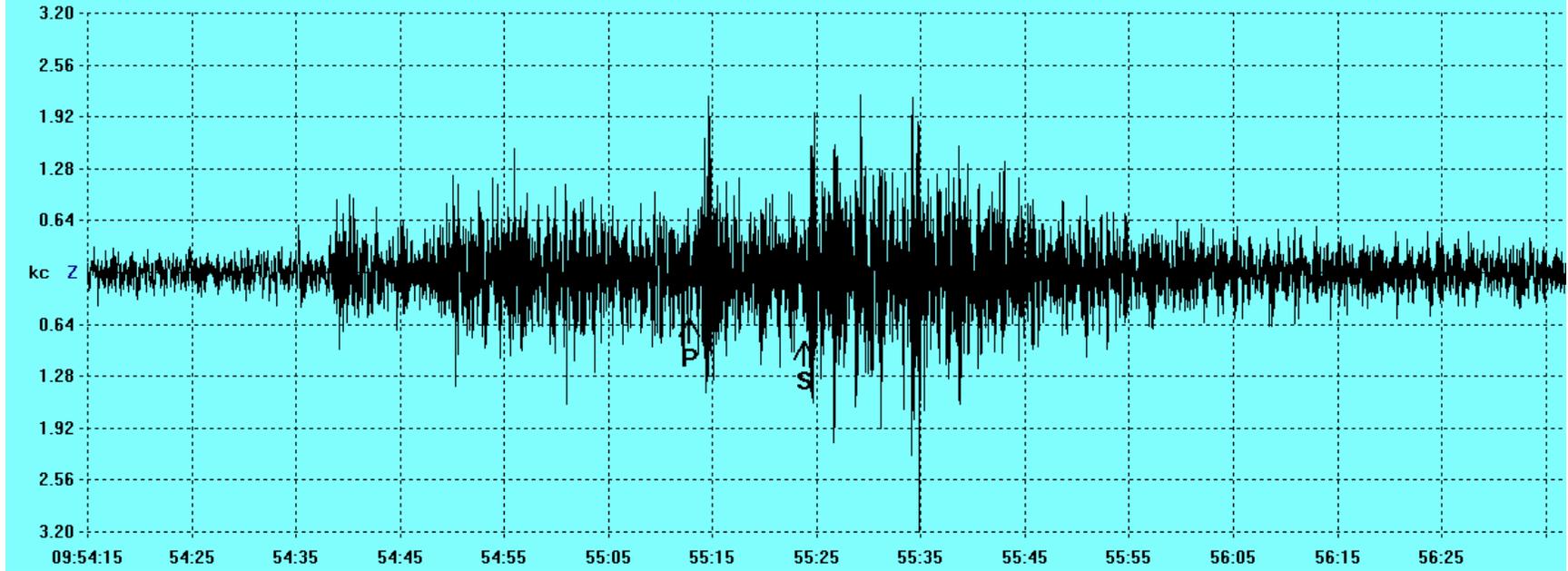
Evento 7

Start: 5/11/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 2198/-3196 X: 2.22.0 Y: 3.2kc
Org: 9:54:23.0 P: 9:54:37.9 S: 9:54:48.9 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



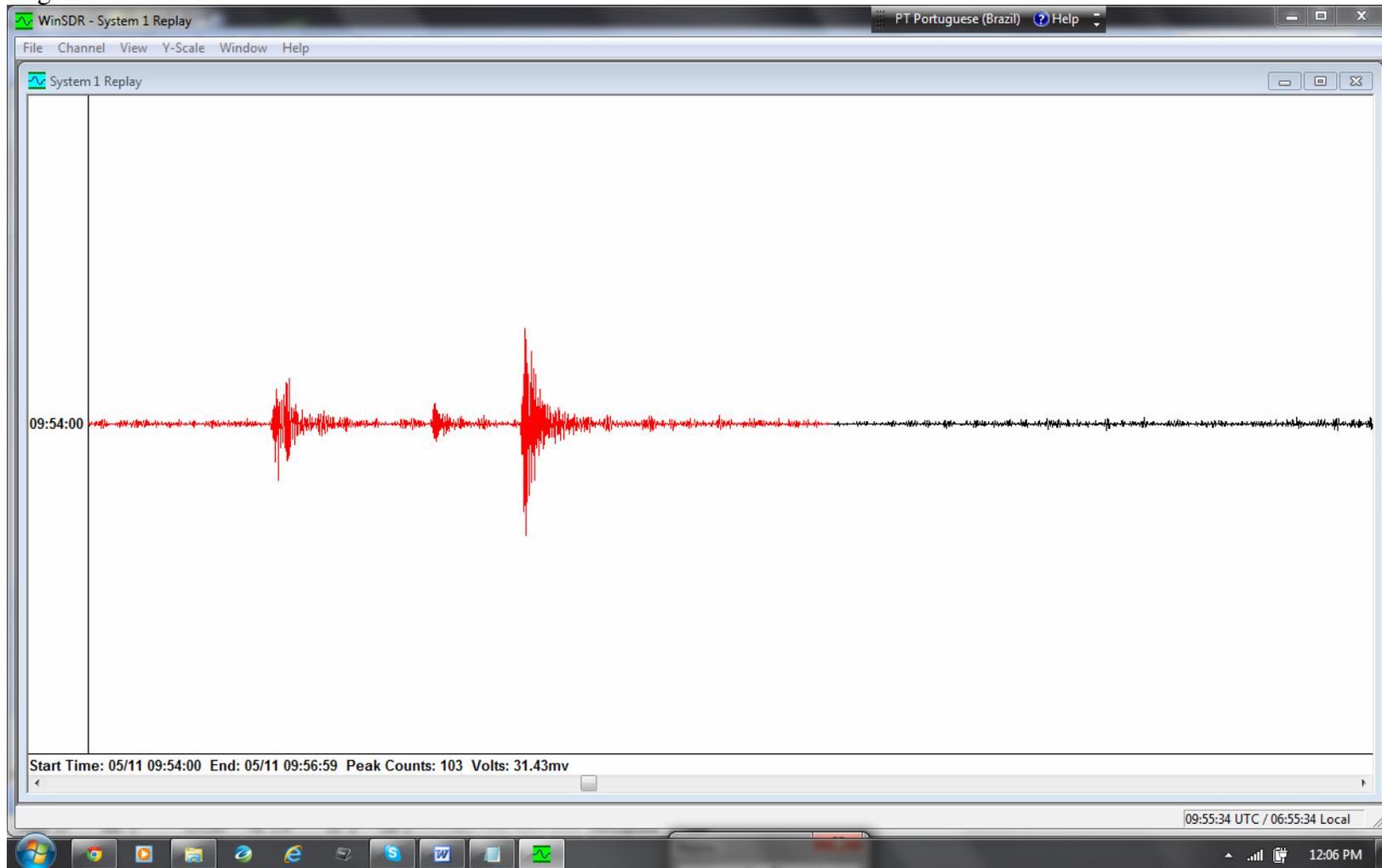
Evento 8

Start: 5/11/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 2198/-3196 X: 2.22.0 Y: 3.2kc
Org: 9:54:57.9 P: 9:55:12.8 S: 9:55:23.8 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



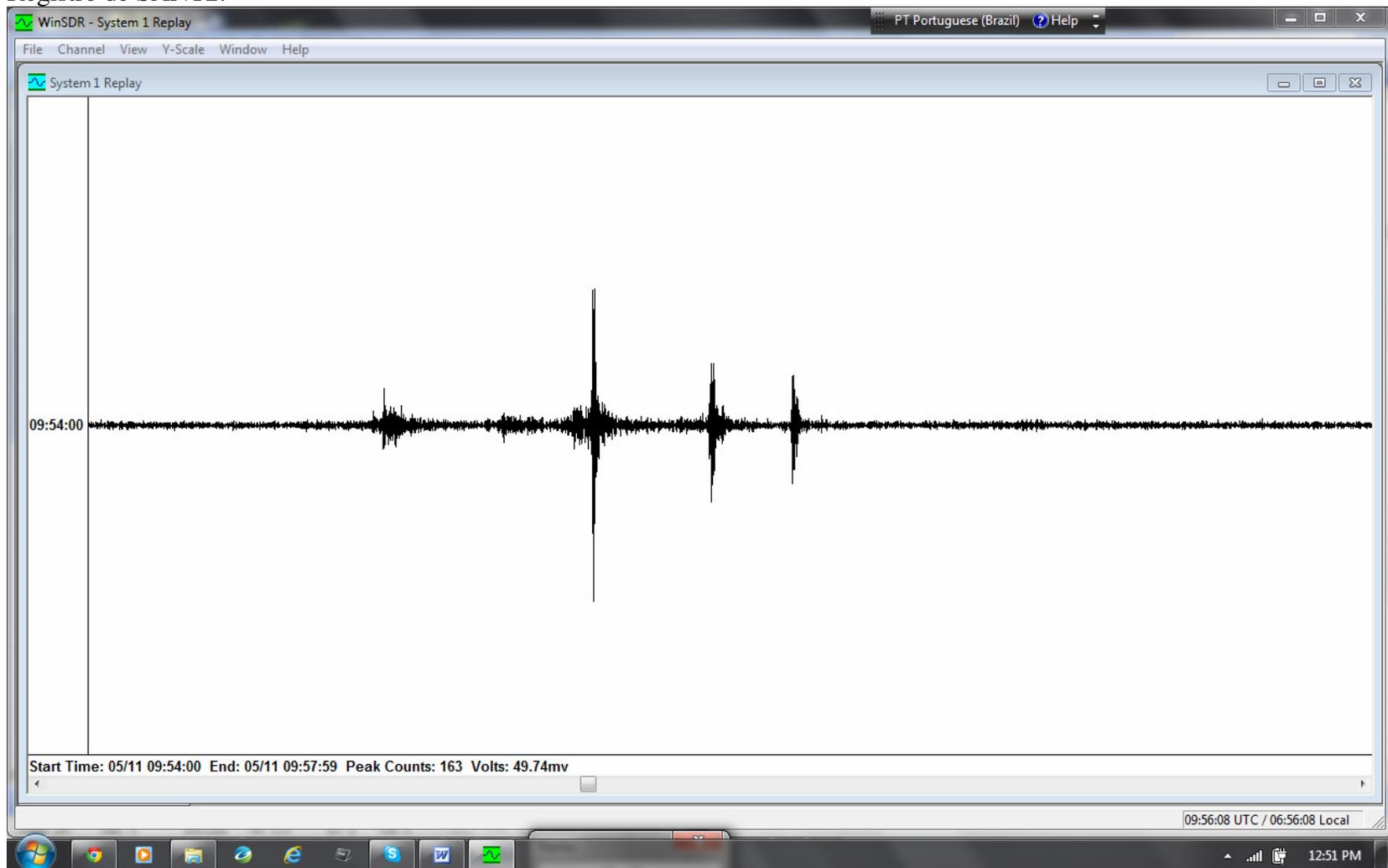
Evento 8

Registro de SANT1:



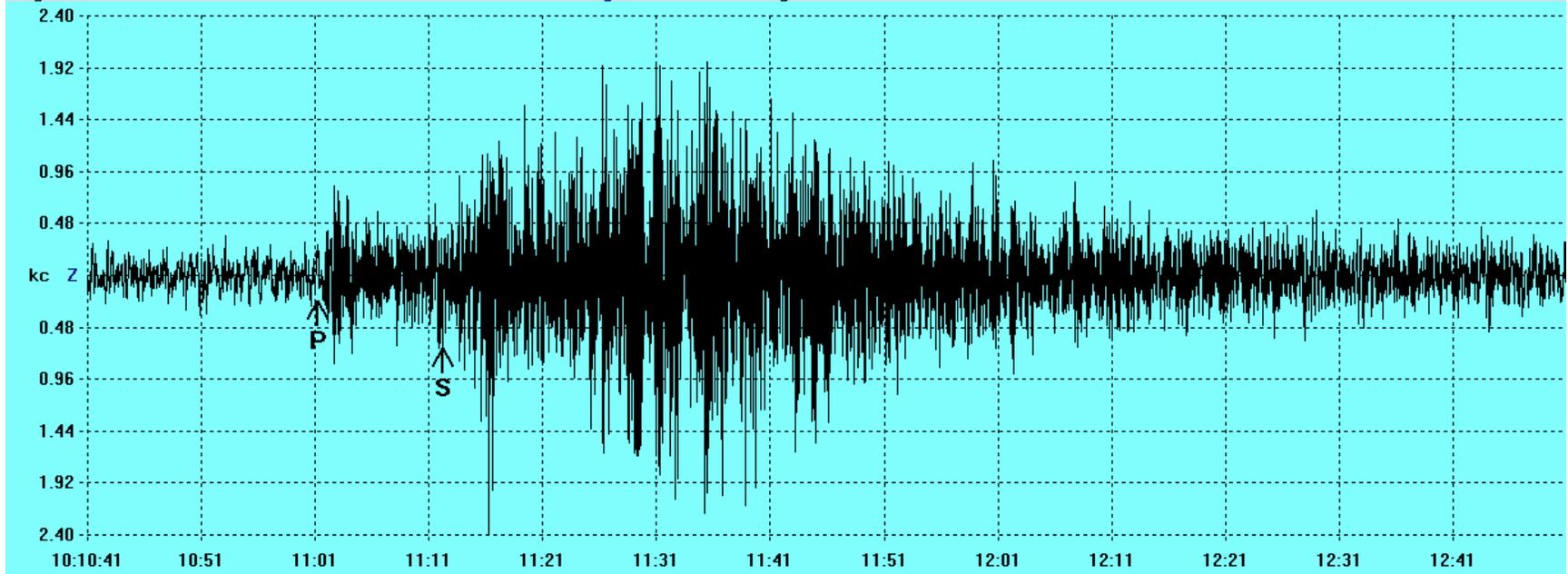
Evento 8

Registro de SANT2:



Evento 8

Start: 5/13/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 2087/-2398 X: 2:10.0 Y: 2.4kc
Org: 10:10:46.3 P: 10:11:01.2 S: 10:11:12.2 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



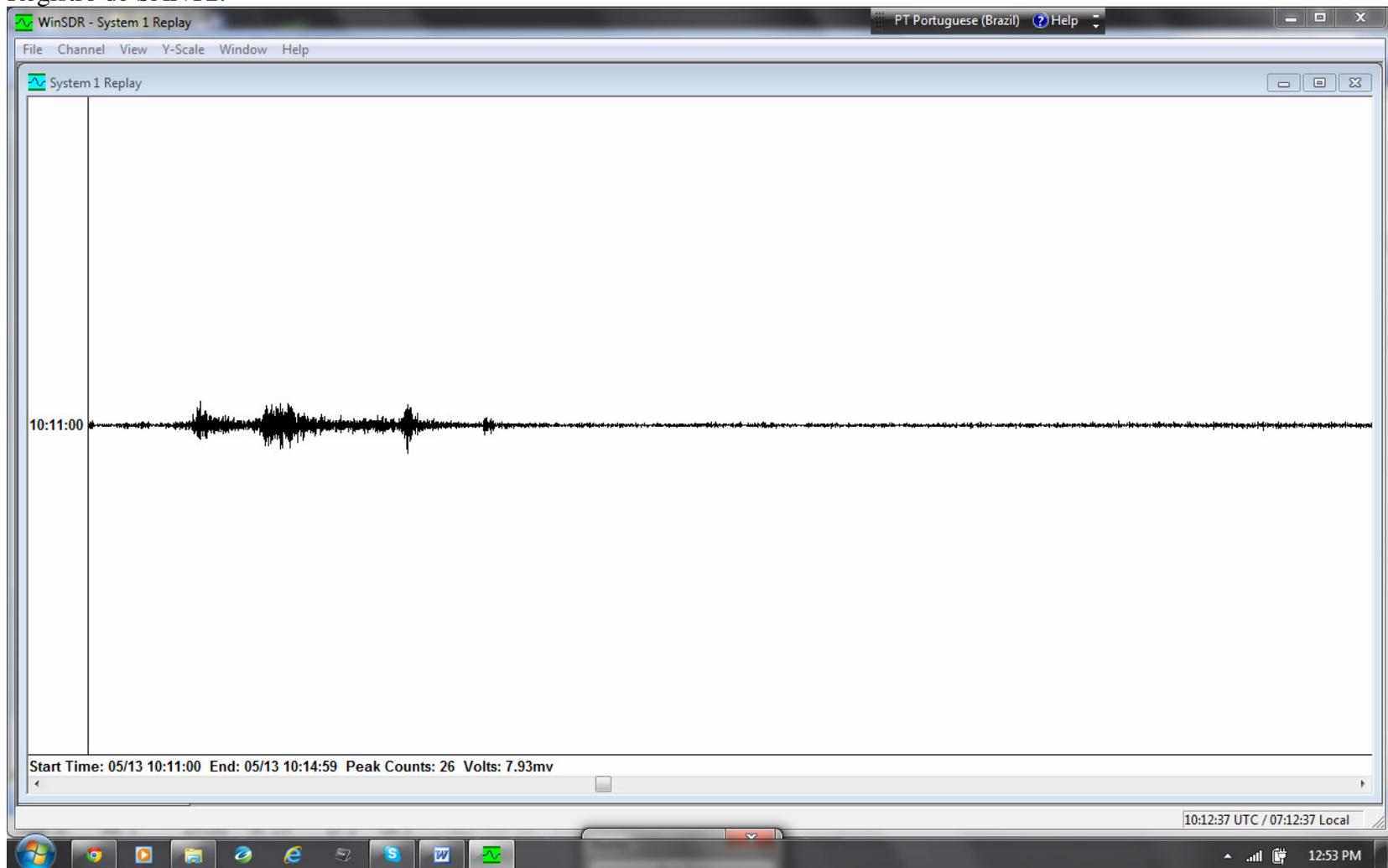
Evento 9

Registro de SANT1:



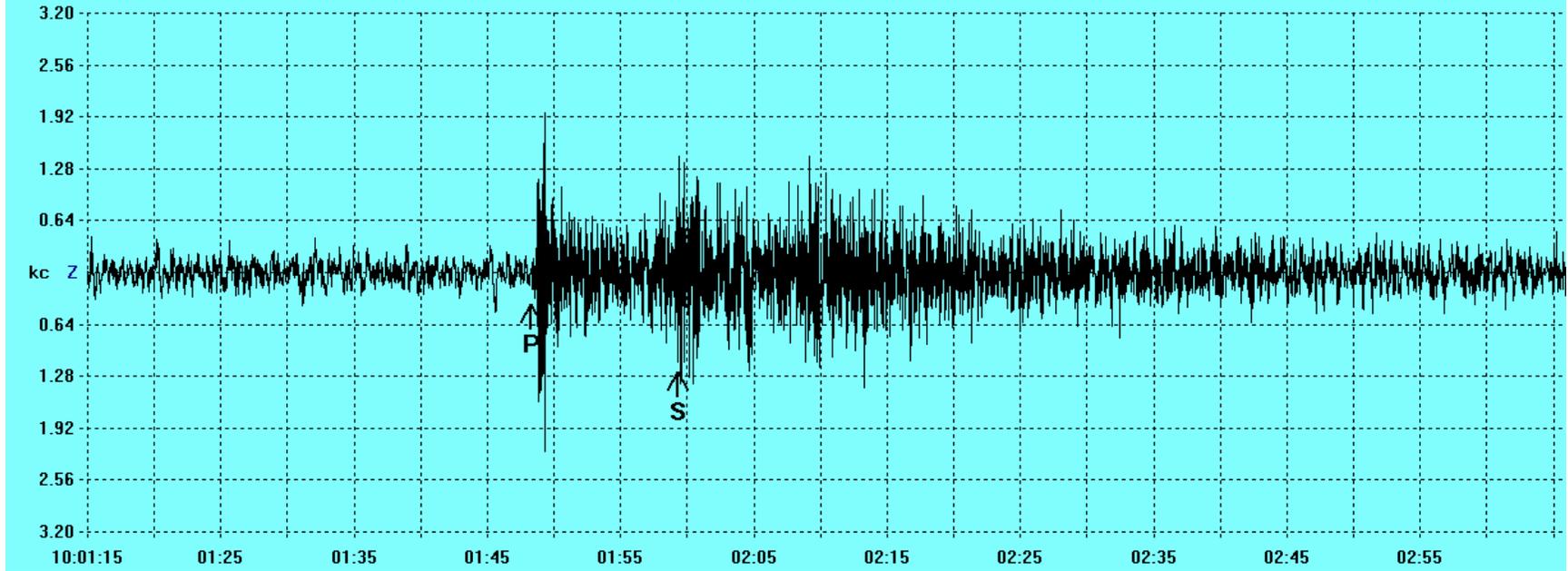
Evento 9

Registro de SANT2:



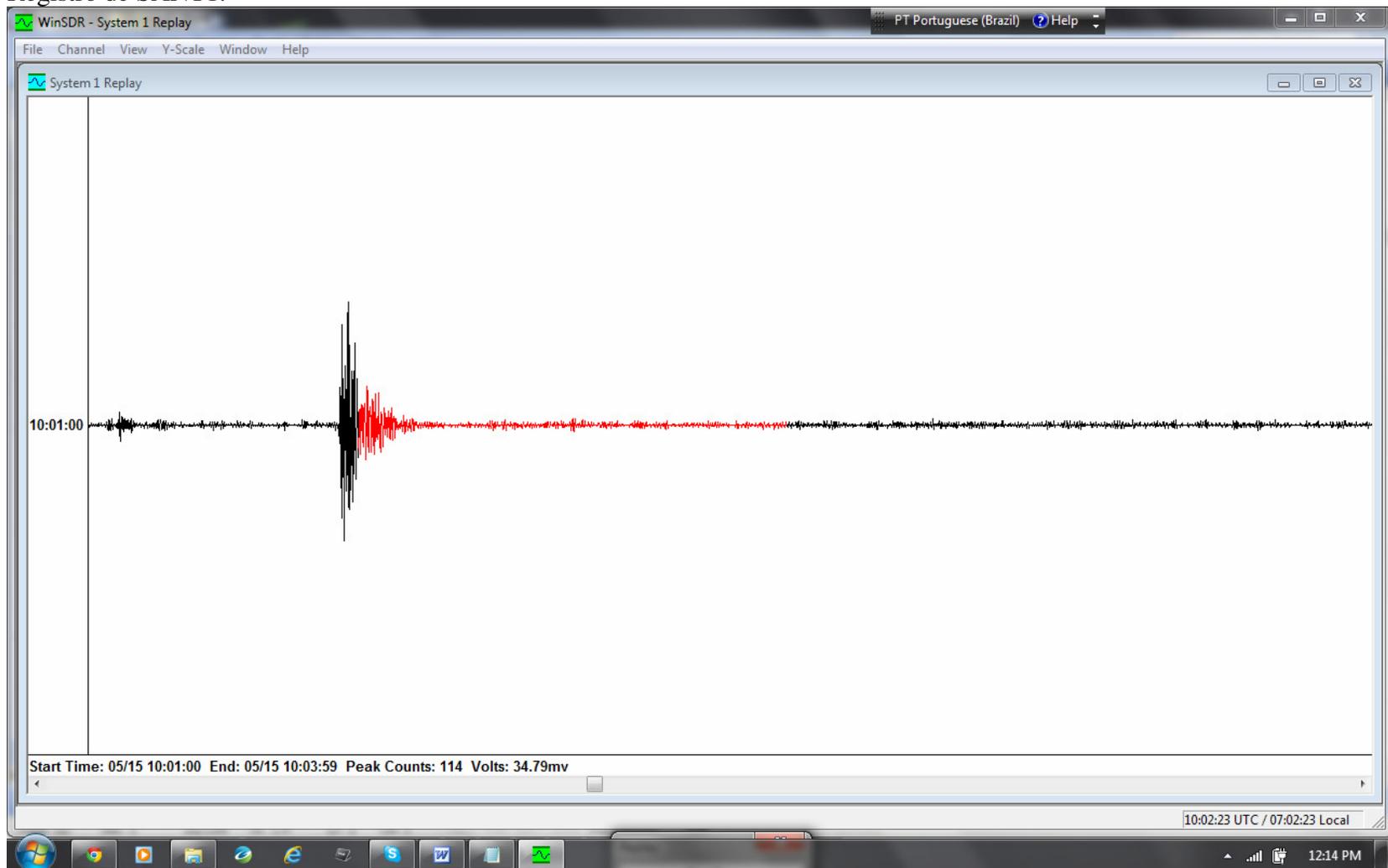
Evento 9

Start: 5/15/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 2630/-3186 X: 1:51.0 Y: 3.2kc
Org: 10:01:33.4 P: 10:01:48.3 S: 10:01:59.3 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



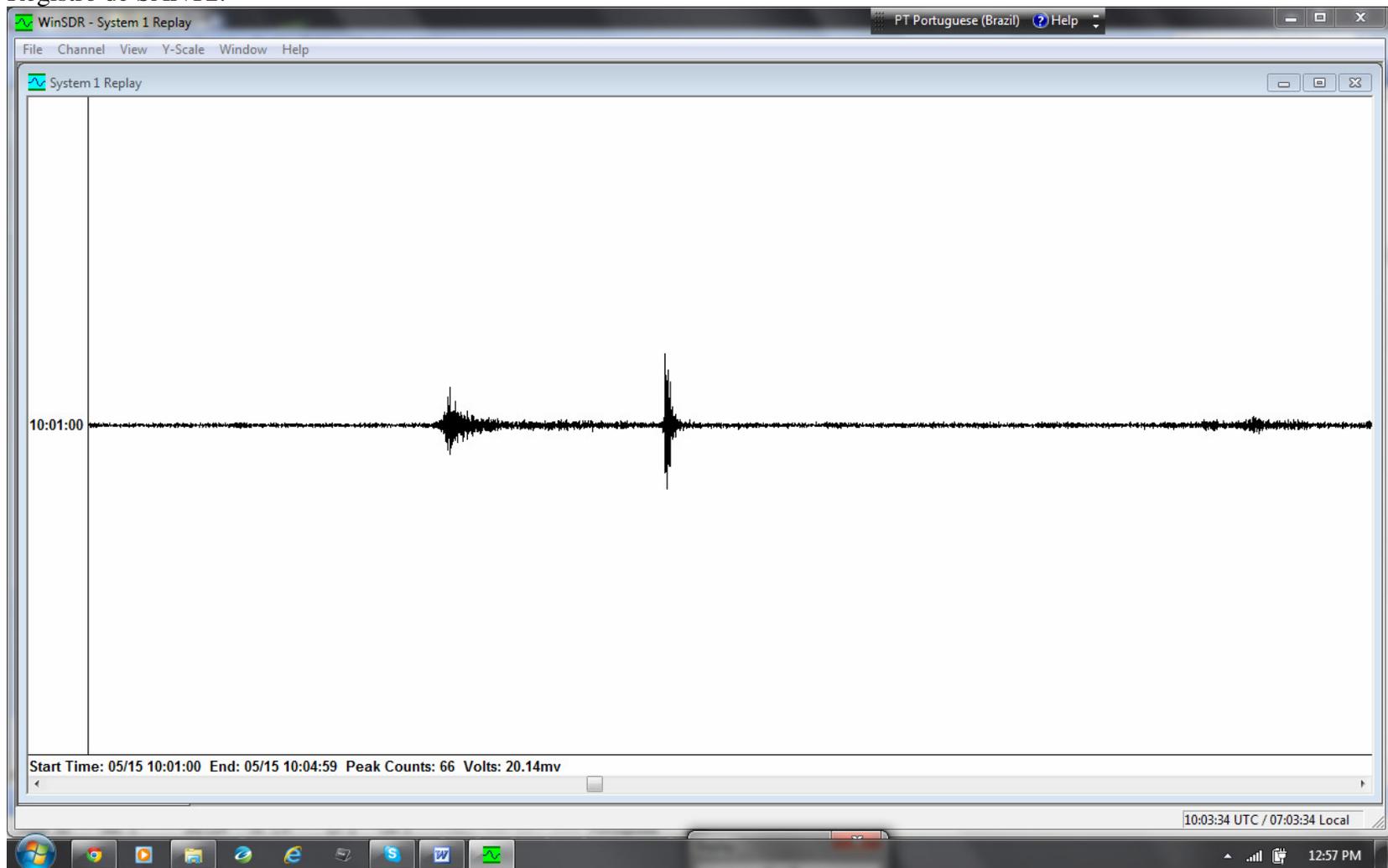
Evento 10

Registro de SANT1:



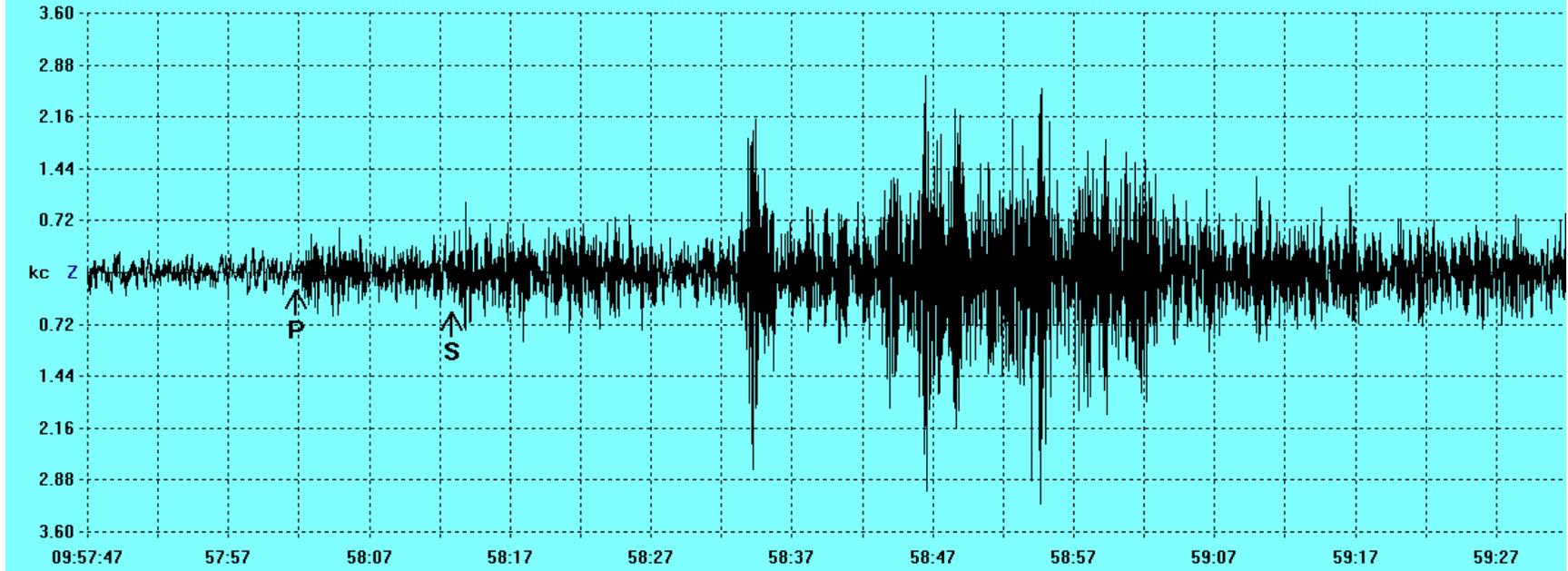
Evento 10

Registro de SANT2:



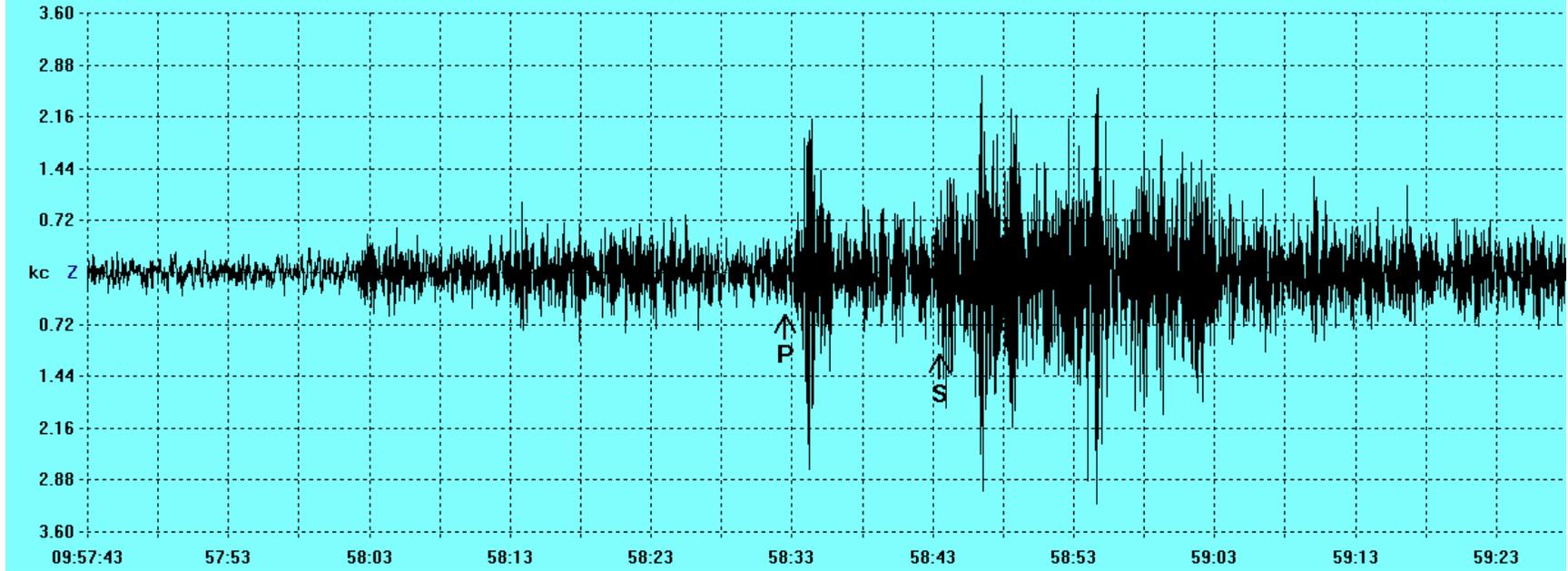
Evento 10

Start: 5/16/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 3530/-3462 X: 1:45.0 Y: 3.6kc
Org: 9:57:46.9 P: 9:58:01.8 S: 9:58:12.8 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



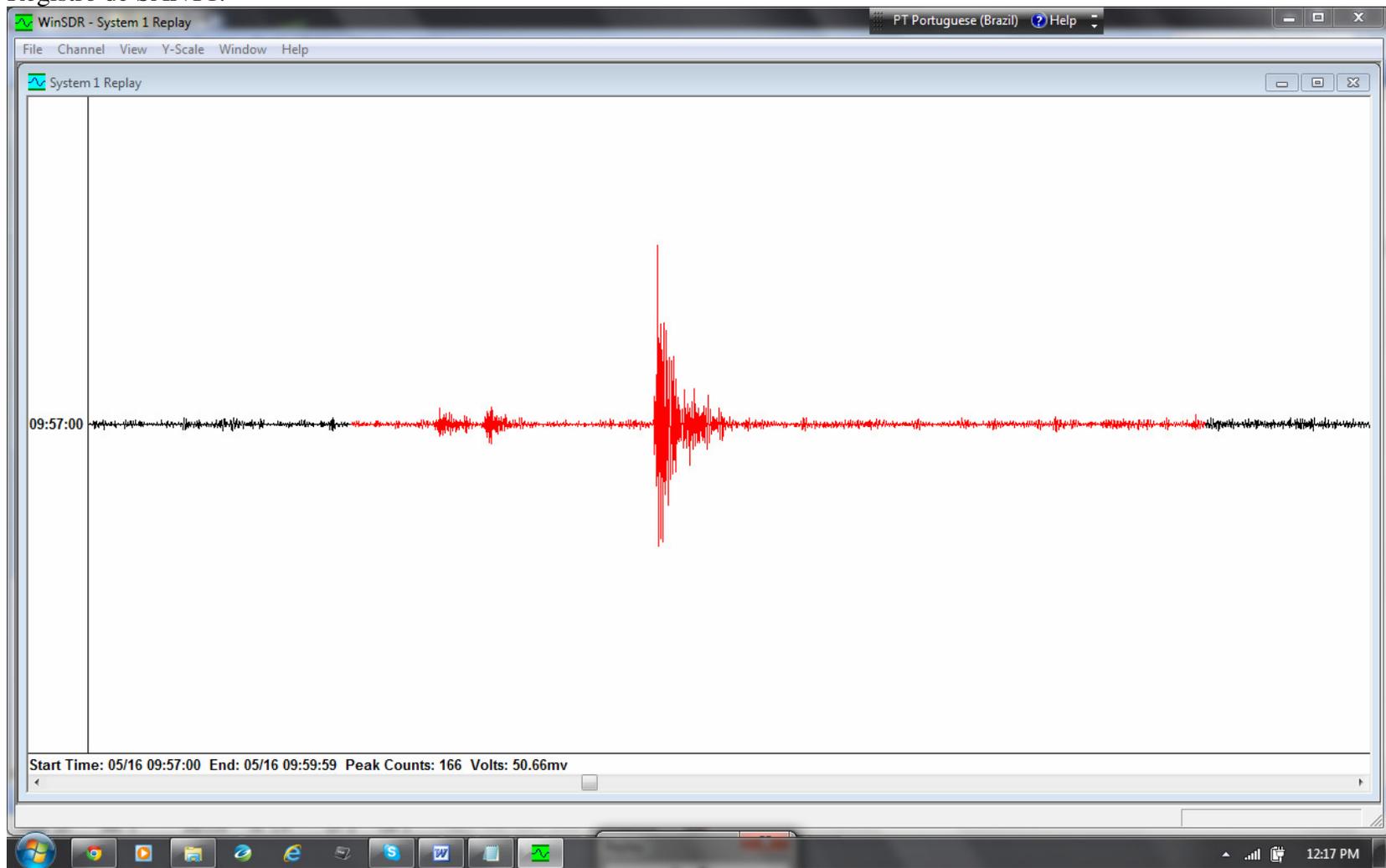
Evento 11

Start: 5/16/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 3530/-3462 X: 1:45.0 Y: 3.6kc
Org: 9:58:17.6 P: 9:58:32.5 S: 9:58:43.5 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



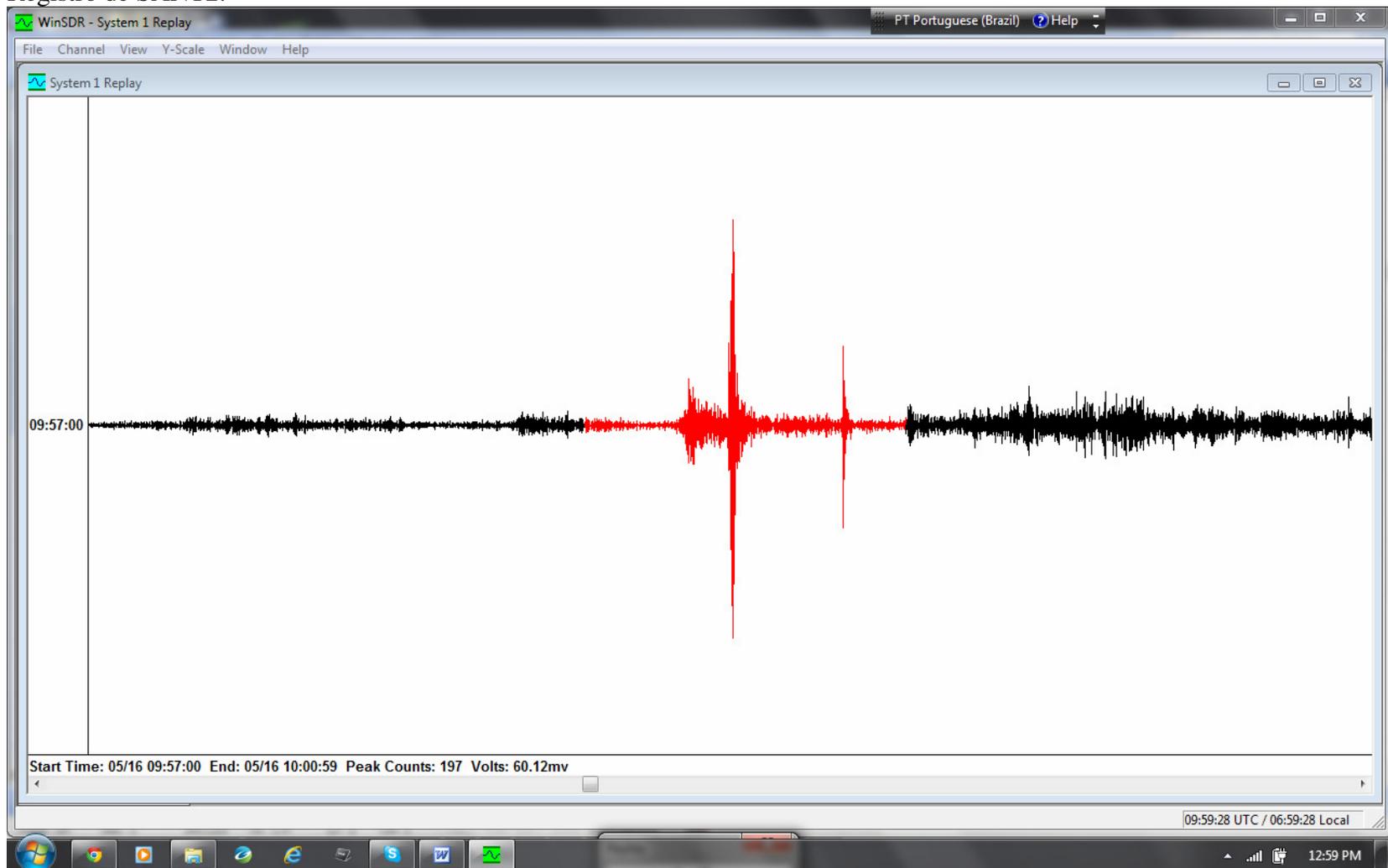
Evento 11

Registro de SANT1:



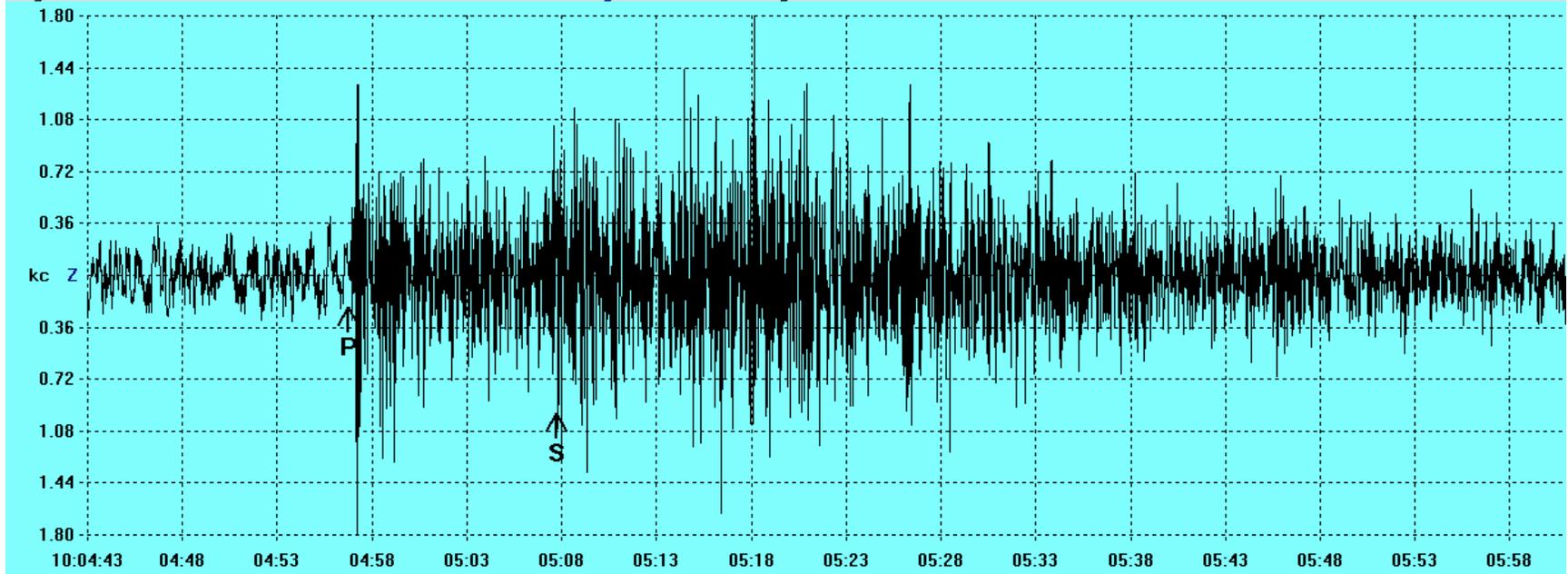
Evento 11

Registro de SANT2:



Evento 11

Start: 5/17/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 1788/-1787 X: 1:18.0 Y: 1.8kc
Org: 10:04:41.8 P: 10:04:56.7 S: 10:05:07.7 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



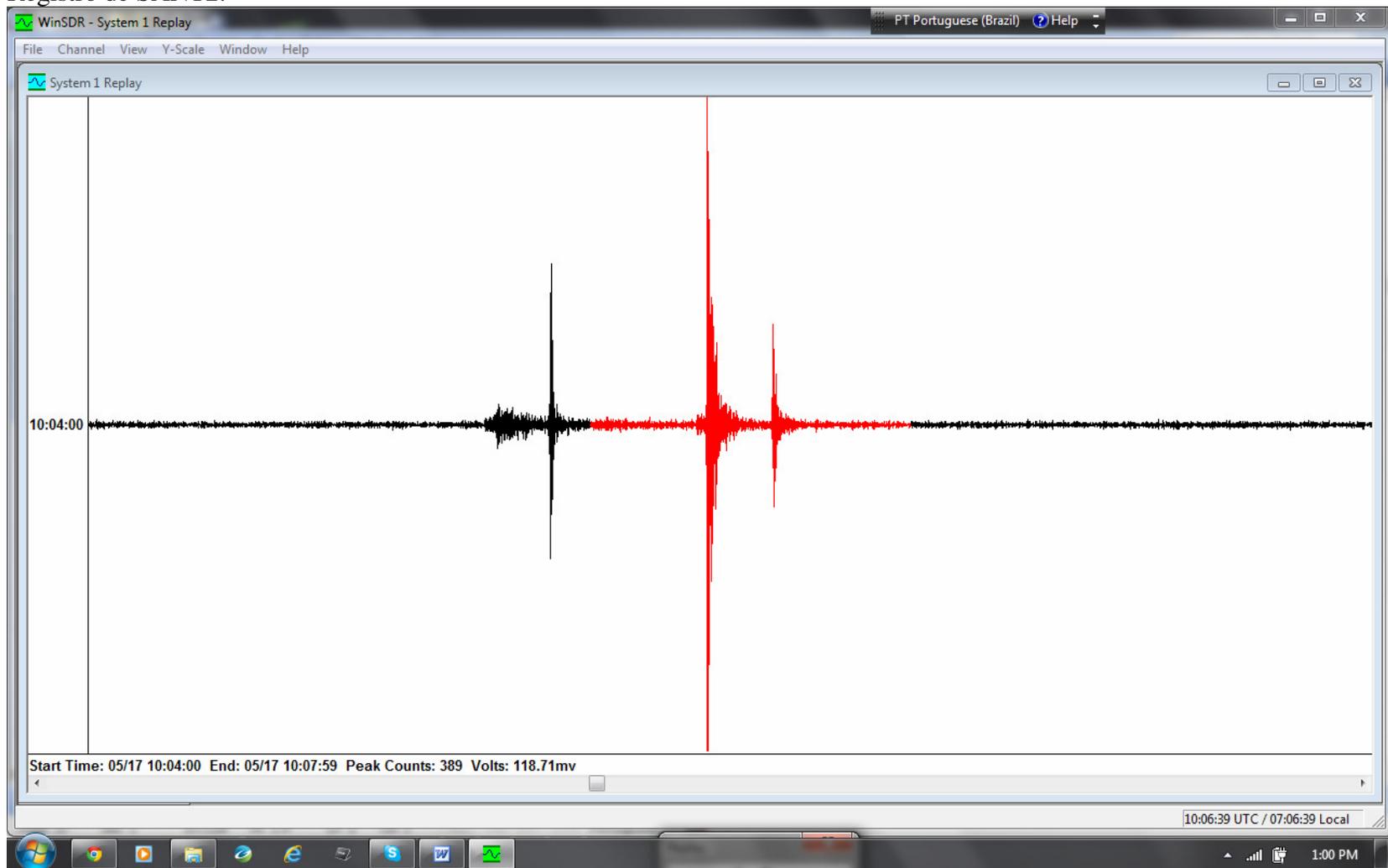
Evento 12

Registro de SANT1:



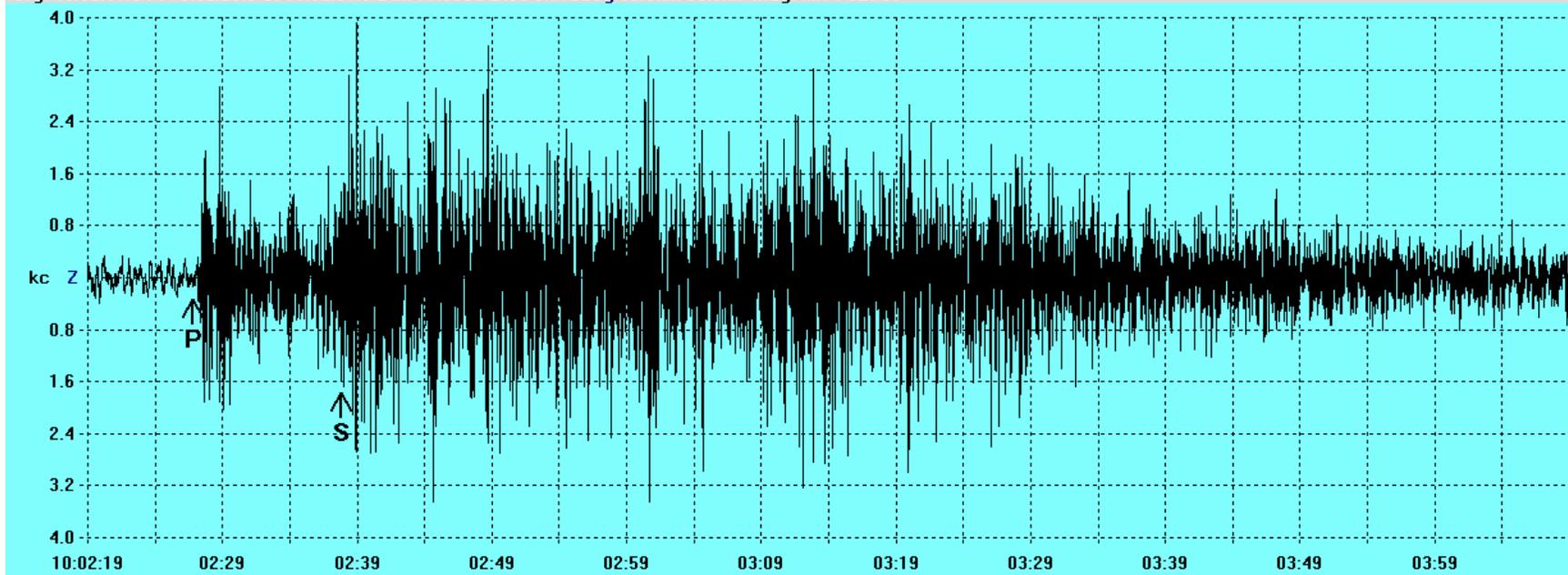
Evento 12

Registro de SANT2:



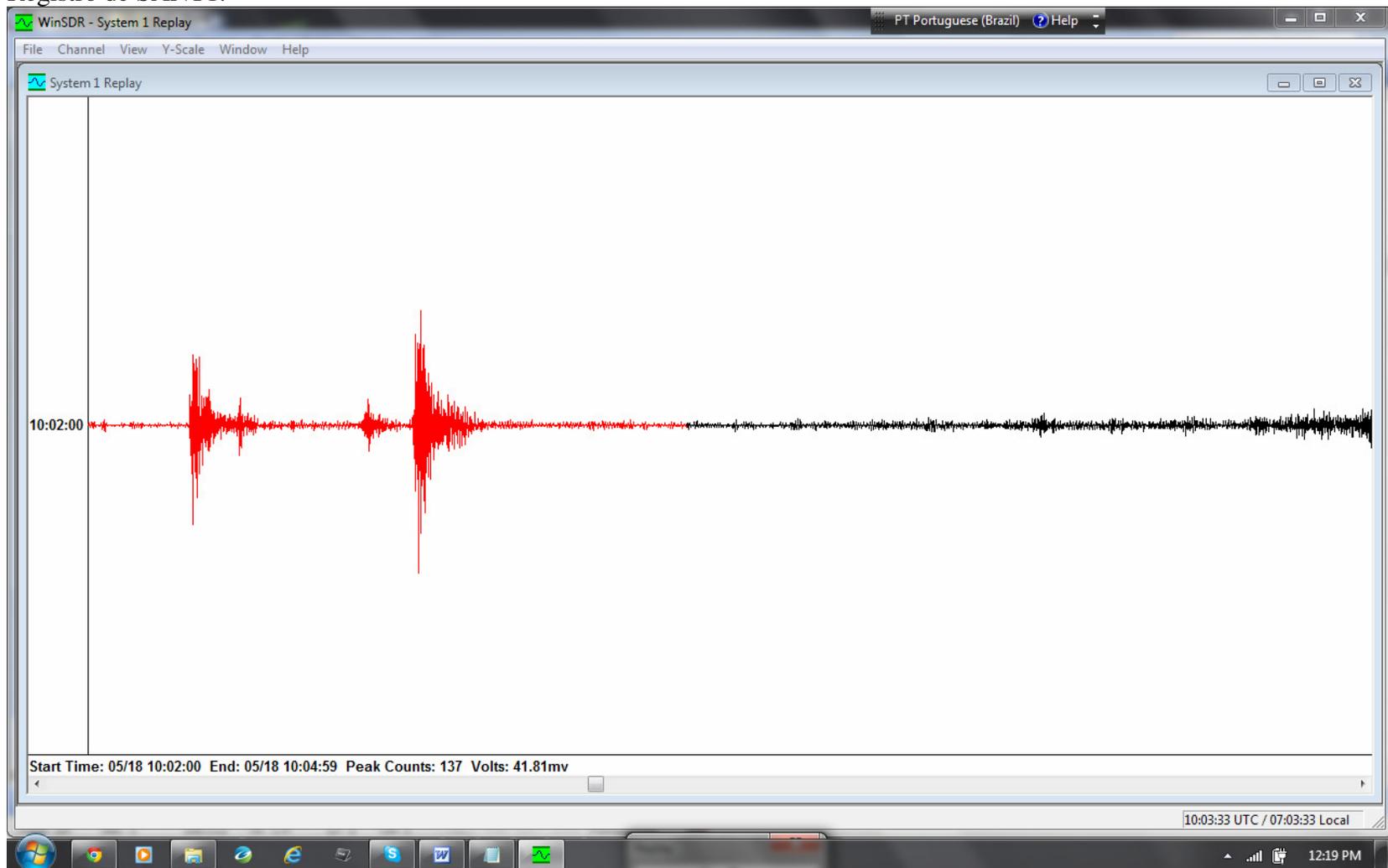
Evento 12

Start: 5/18/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 3922/-3450 X: 1:50.0 Y: 4kc
Org: 10:02:11.9 P: 10:02:26.8 S: 10:02:37.8 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



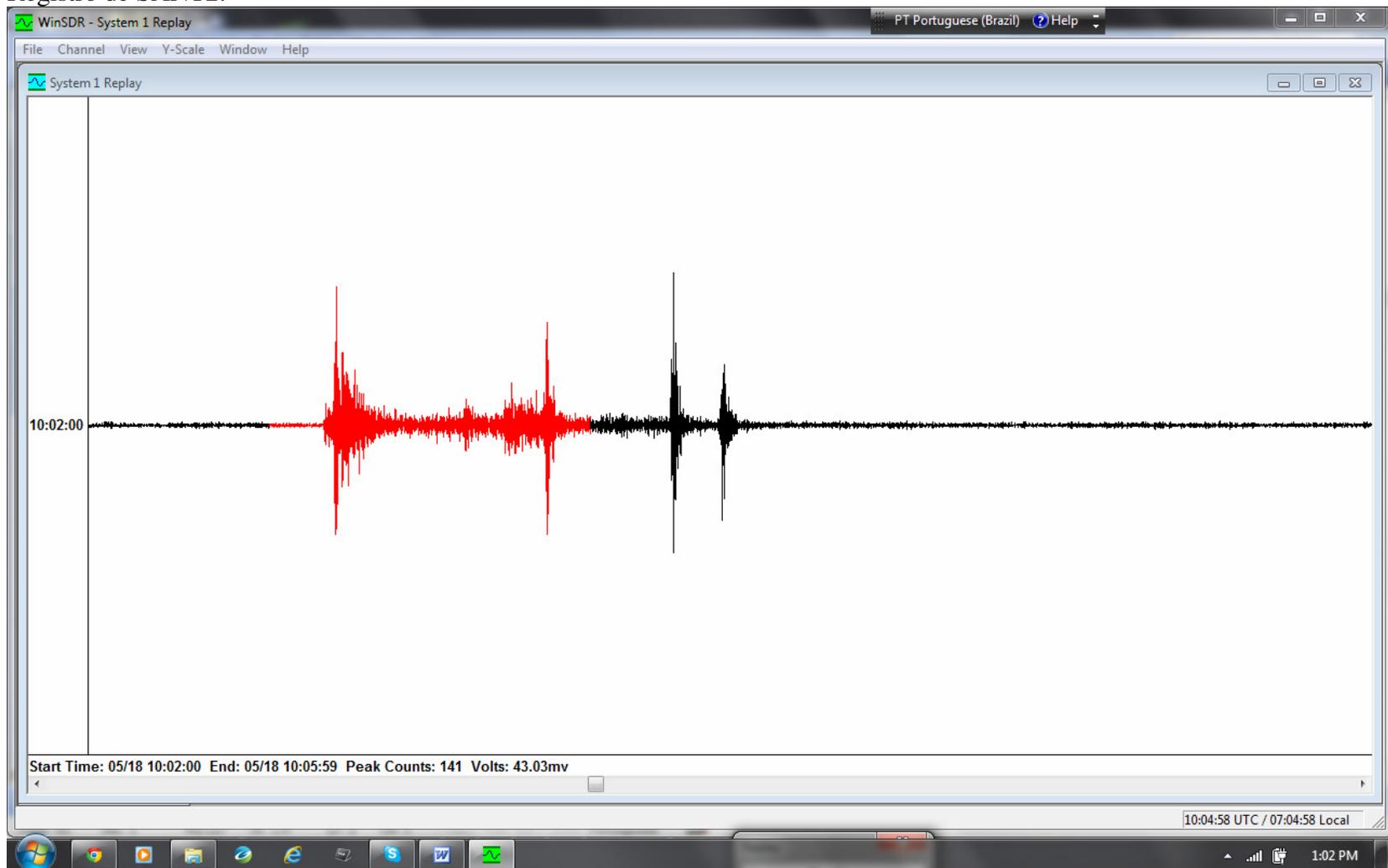
Evento 13 – detonações sobrepostas.

Registro de SANT1:



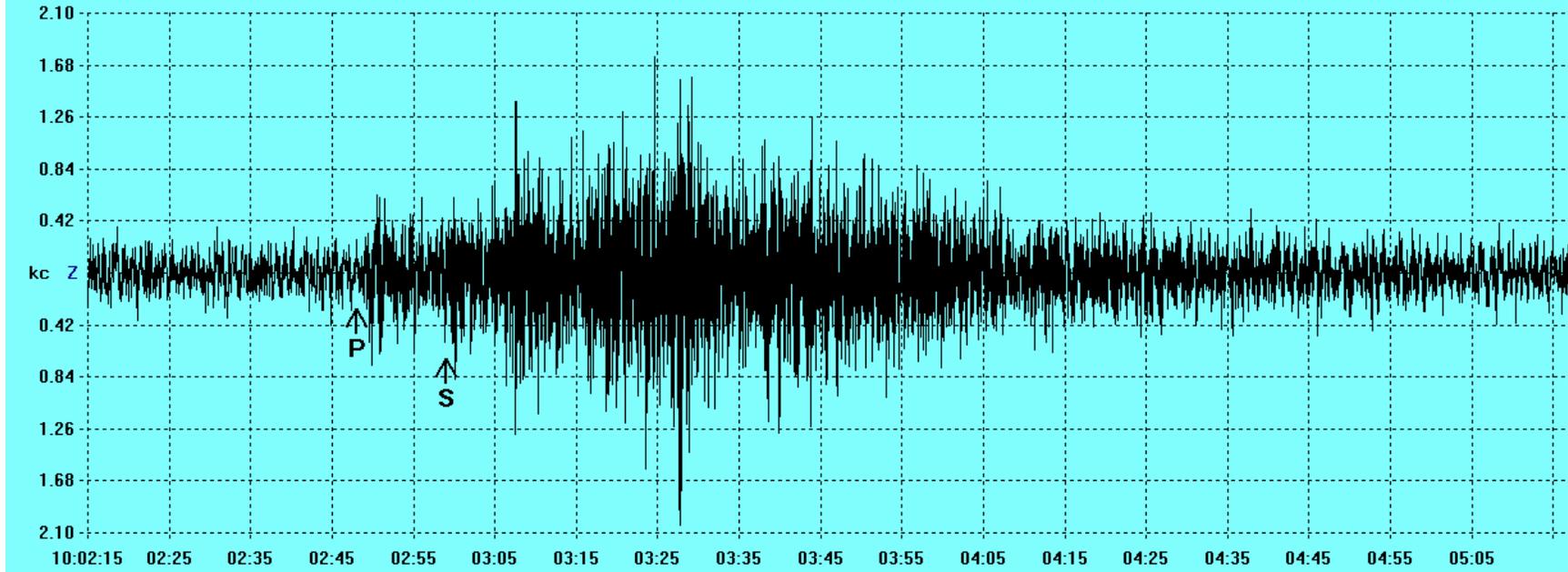
Evento 13

Registro de SANT2:



Evento 13

Start: 5/19/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 1750/-2037 X: 3:02.0 Y: 2.1kc
Org: 10:02:33.1 P: 10:02:48.0 S: 10:02:59.0 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



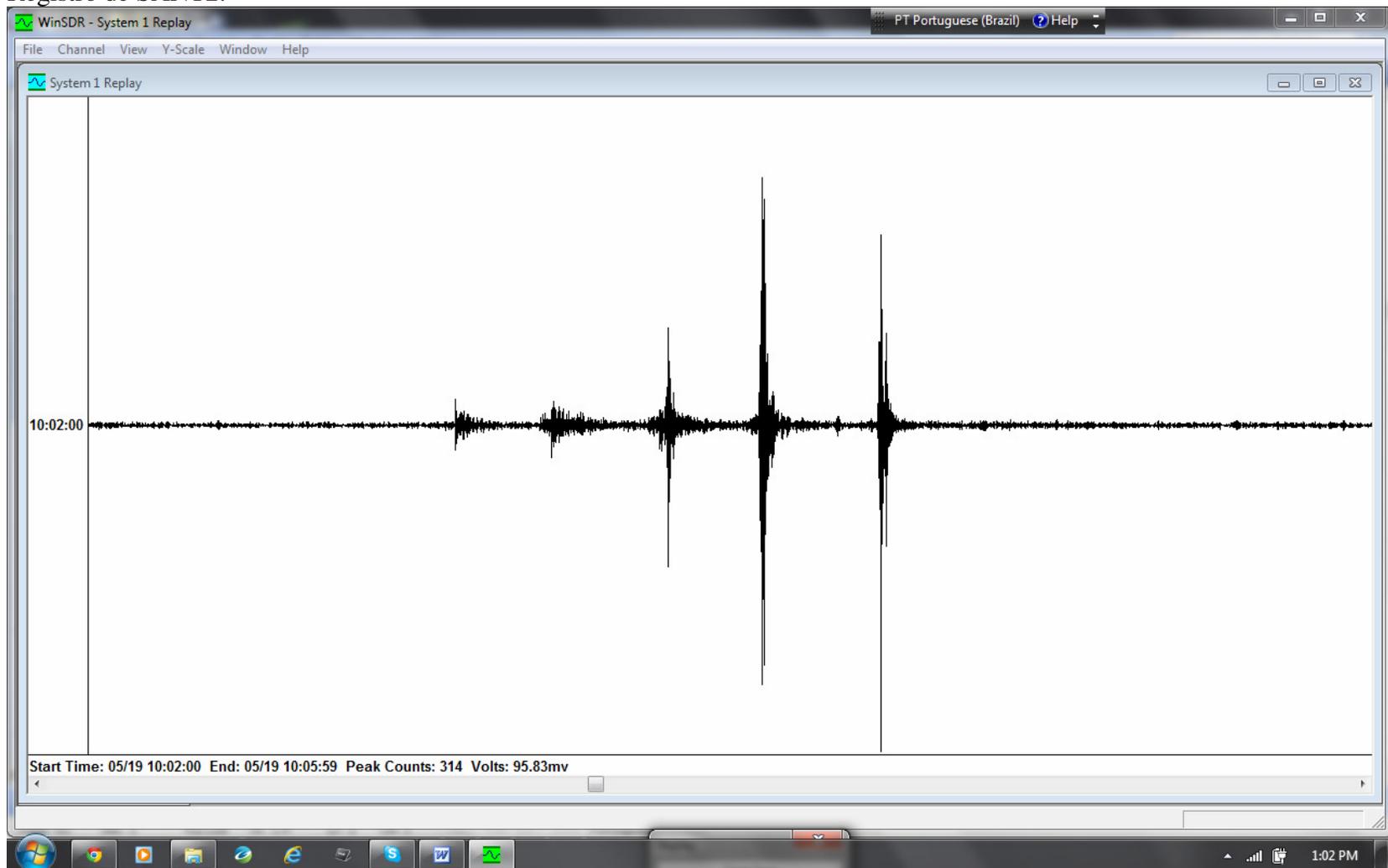
Eventos 14 e 15 – eventos sobrepostos.

Registro de SANT1:



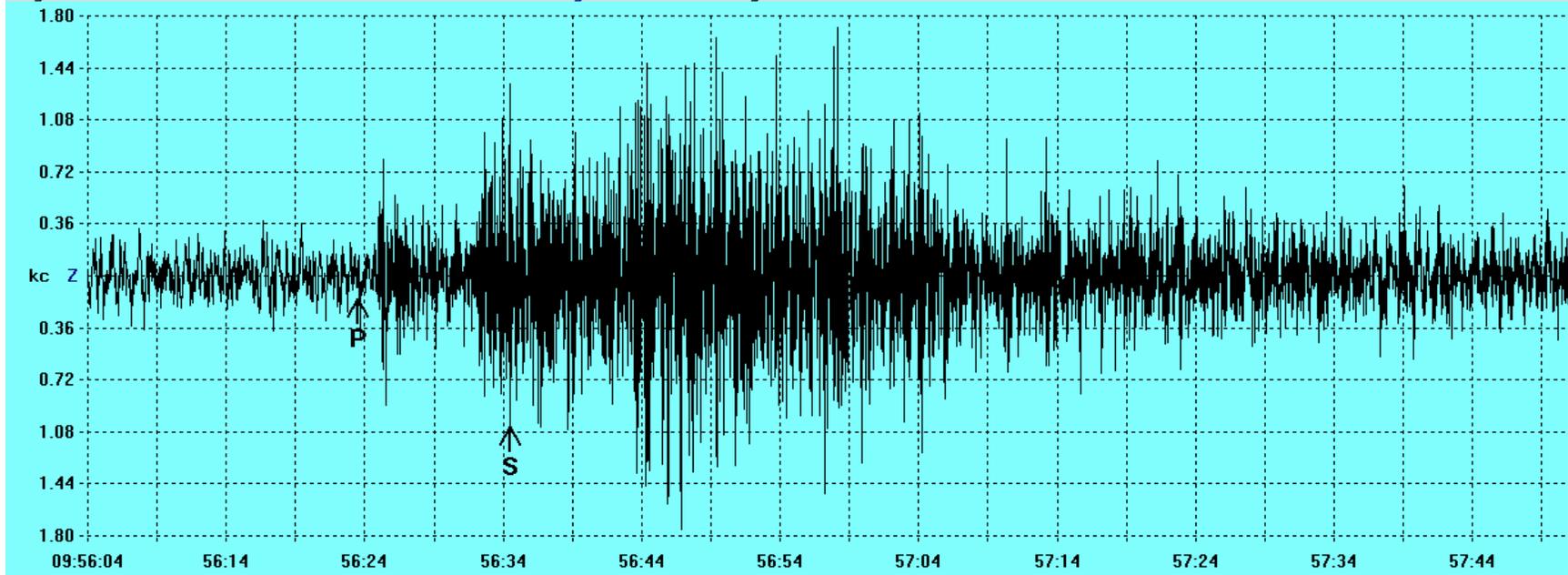
Eventos 14 e 15

Registro de SANT2:



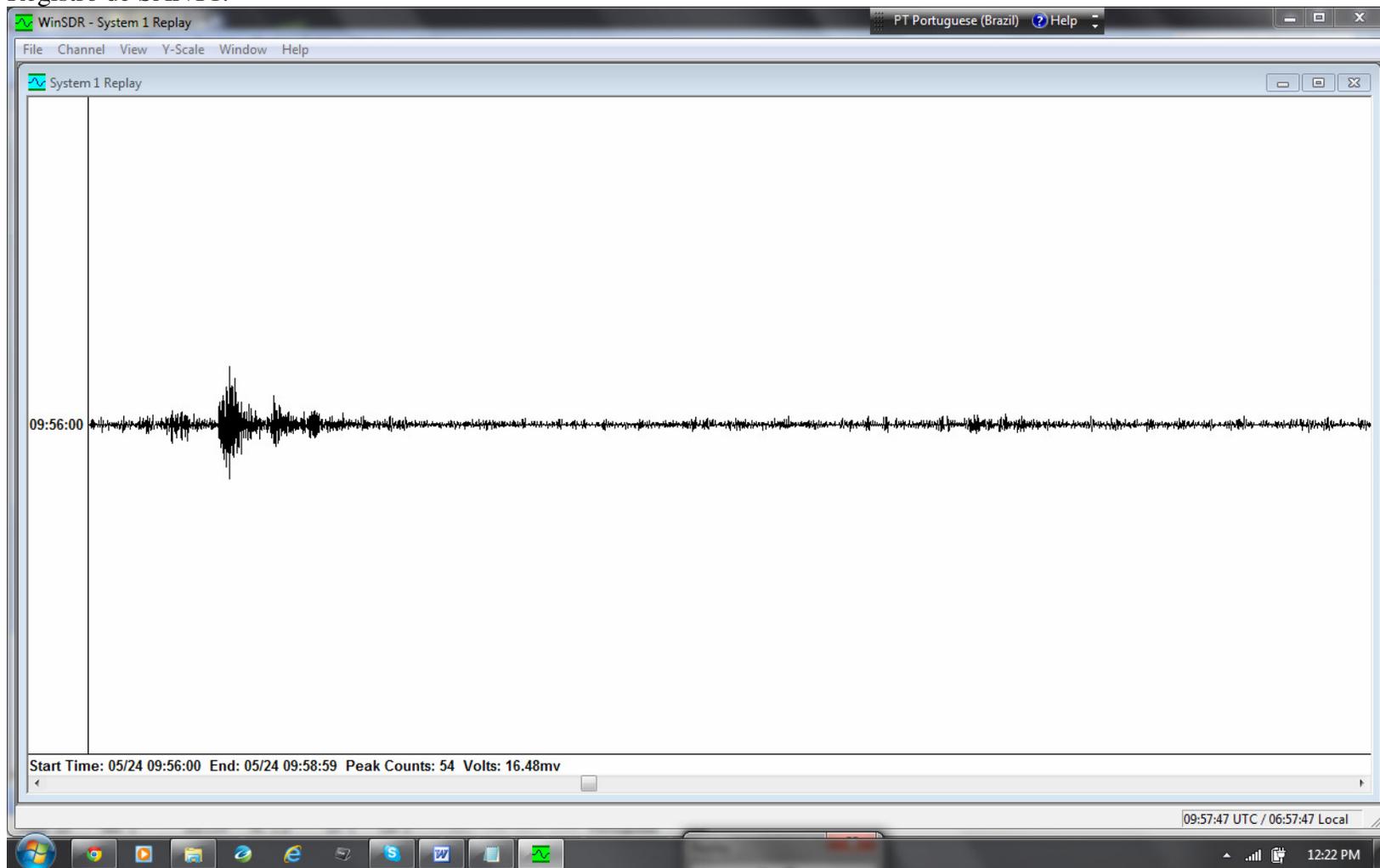
Eventos 14 e 15.

Start: 5/24/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 1719/-1754 X: 1:47.0 Y: 1.8kc
Org: 9:56:08.6 P: 9:56:23.5 S: 9:56:34.5 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



Evento 16 – eventos sobrepostos.

Registro de SANT1:



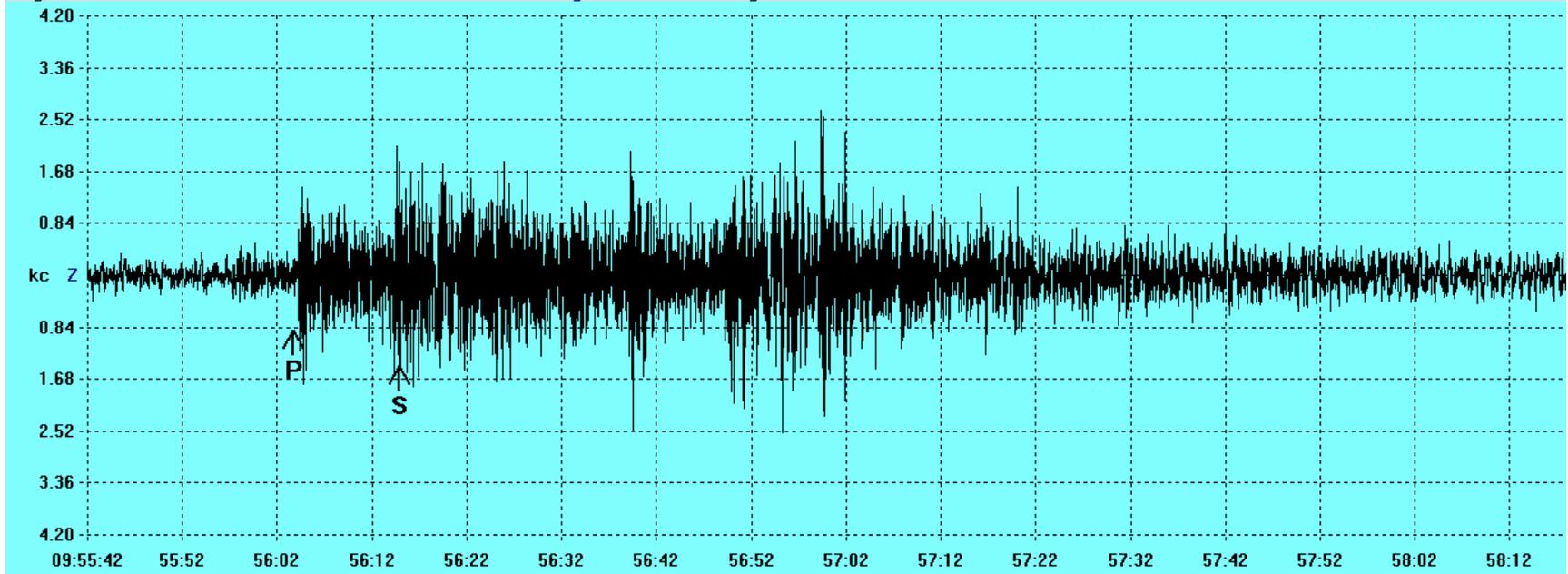
Evento 16

Registro de SANT2:



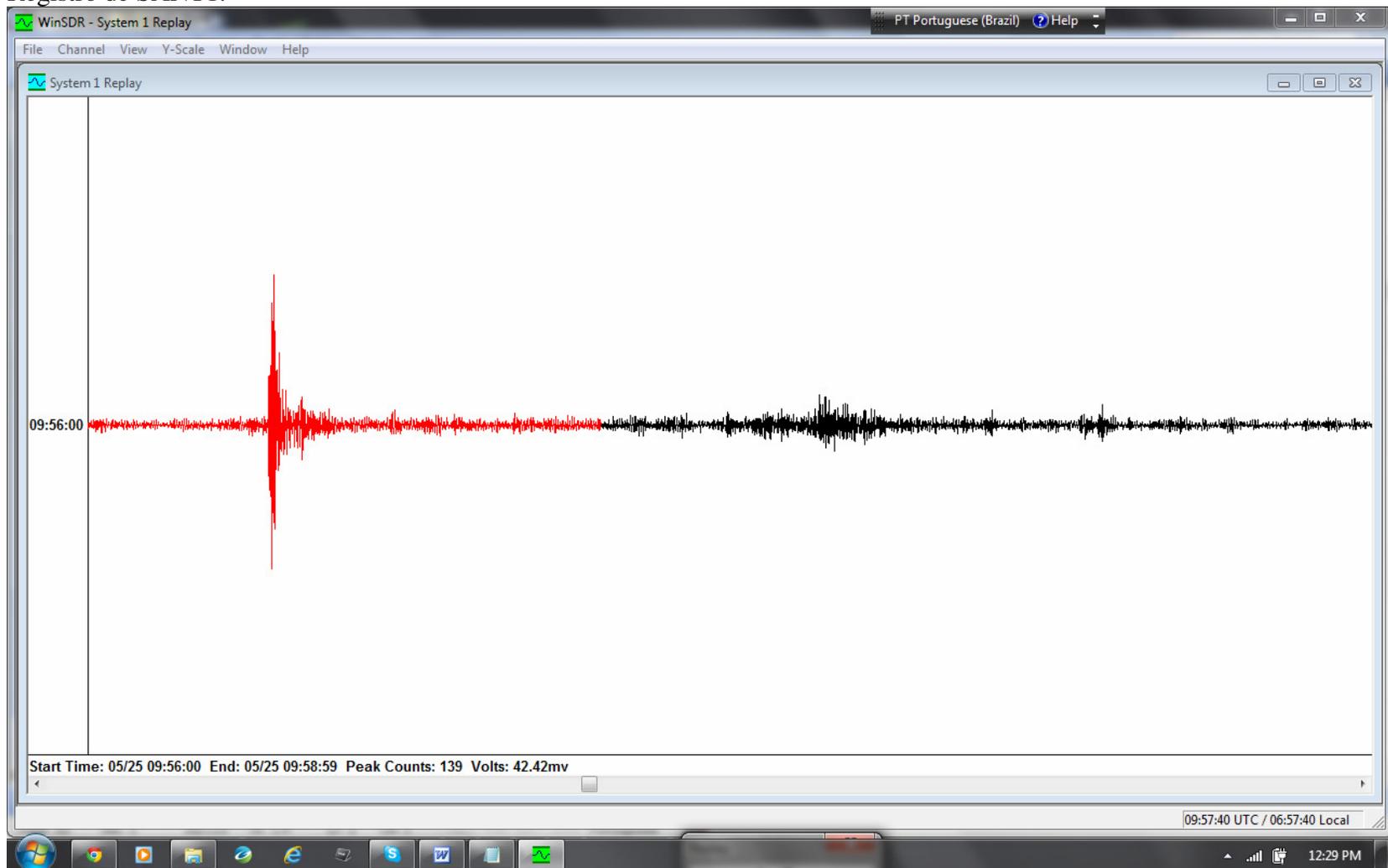
Evento 16.

Start: 5/25/12 8:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 4112/-4016 X: 2.36.0 Y: 4.2kc
Org: 9:55:48.6 P: 9:56:03.7 S: 9:56:14.9 Diff: 11.2sec Dist: 0.793deg 88.2km 54.8mi Mag: MI?? JB: 33



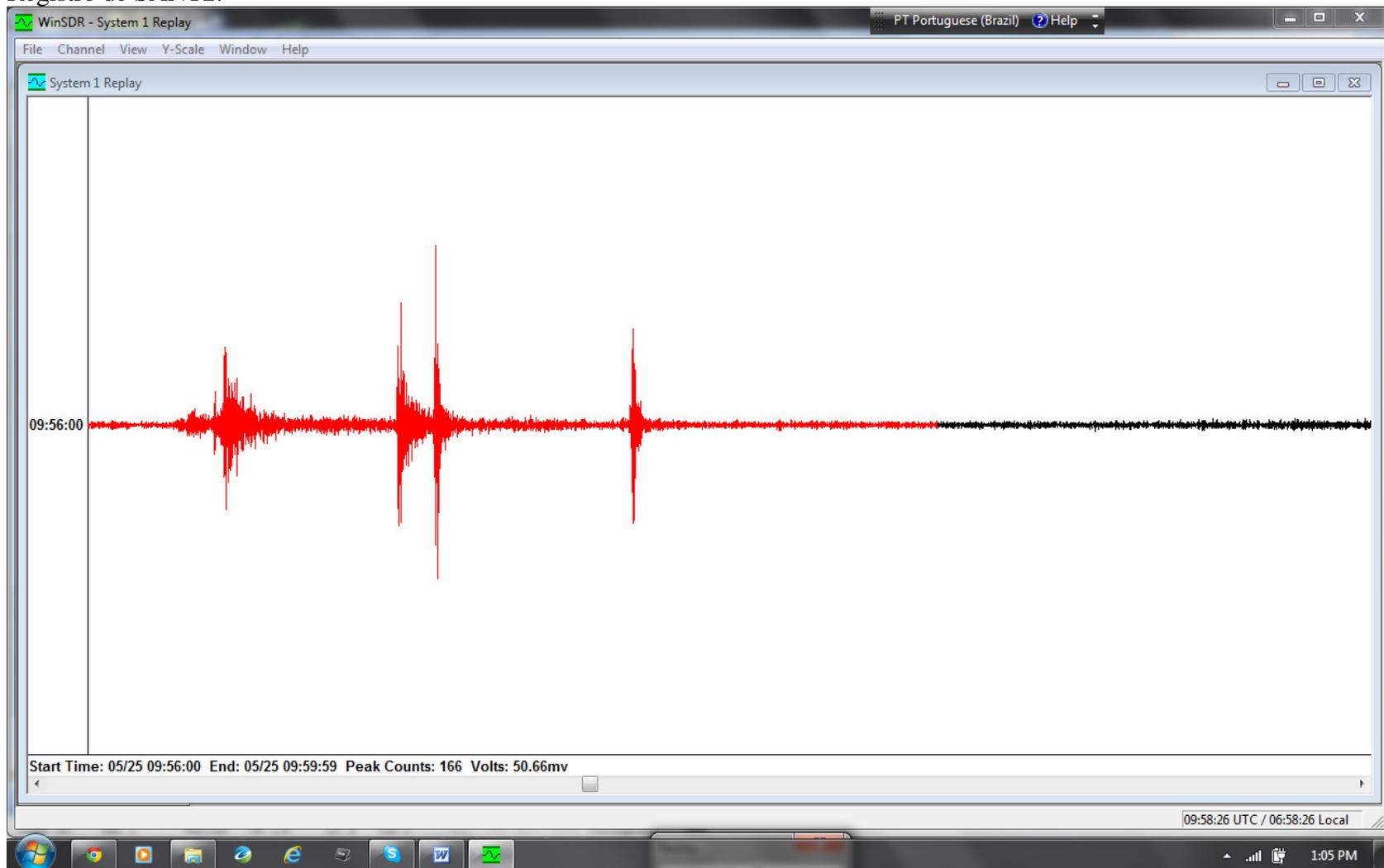
Evento 17 – eventos sobrepostos.

Registro de SANT1:



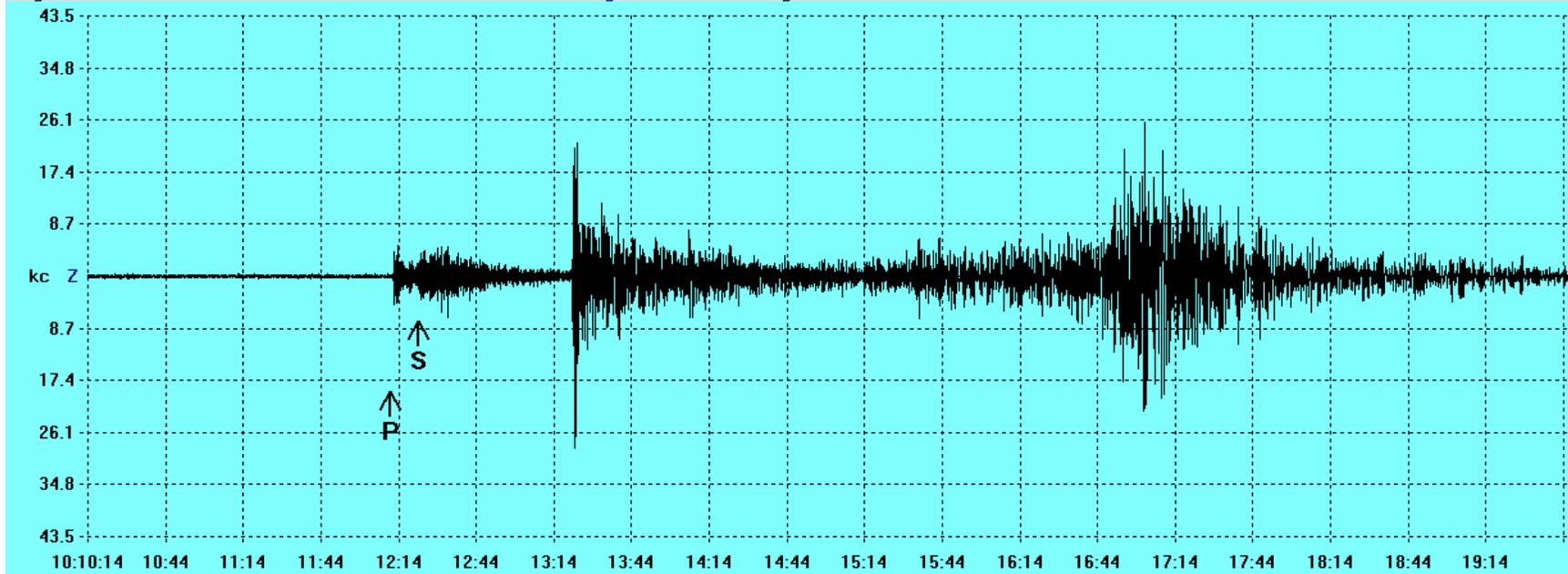
Evento 17

Registro de SANT2:



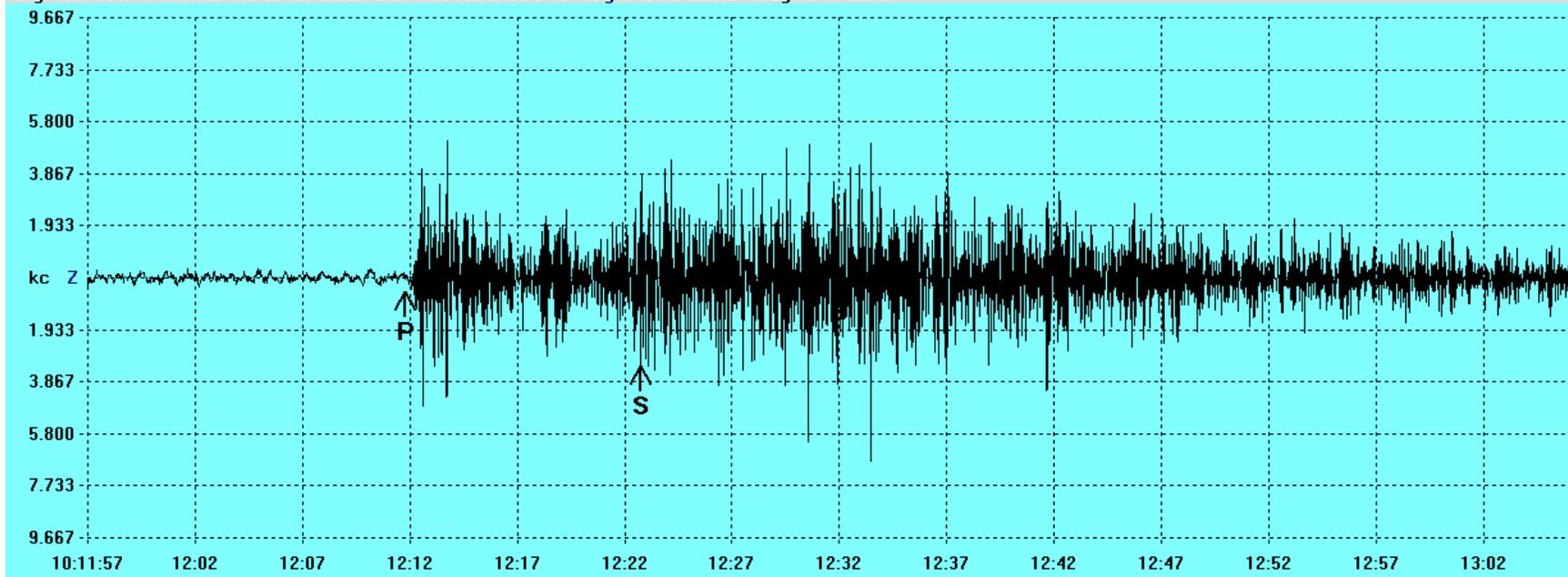
Evento 17

Start: 5/27/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 25656/-28786 X: 9.33.0 Y: 43.5kc
Org: 10:11:56.1 P: 10:12:10.8 S: 10:12:21.7 Diff: 10.9sec Dist: 0.761deg 84.6km 52.6mi Mag: MI?? JB: 33



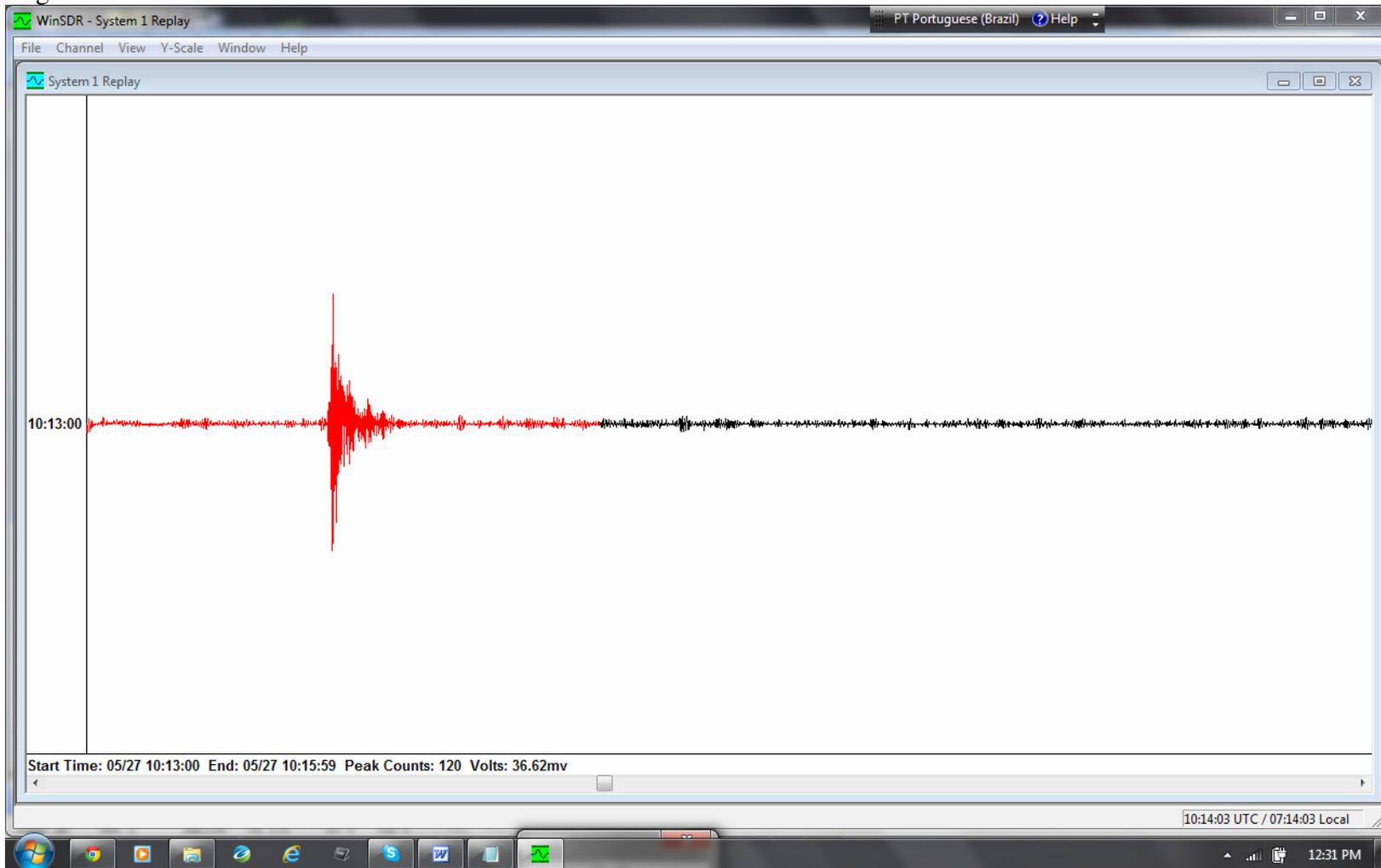
Evento 18 – detonação que precede o registro de um telessismo.

Start: 5/27/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 25656/-28786 X: 1:09.0 Y: 9.66667kc
Org: 10:11:57.1 P: 10:12:11.8 S: 10:12:22.7 Diff: 10.9sec Dist: 0.761deg 84.6km 52.6mi Mag: MI?? JB: 33



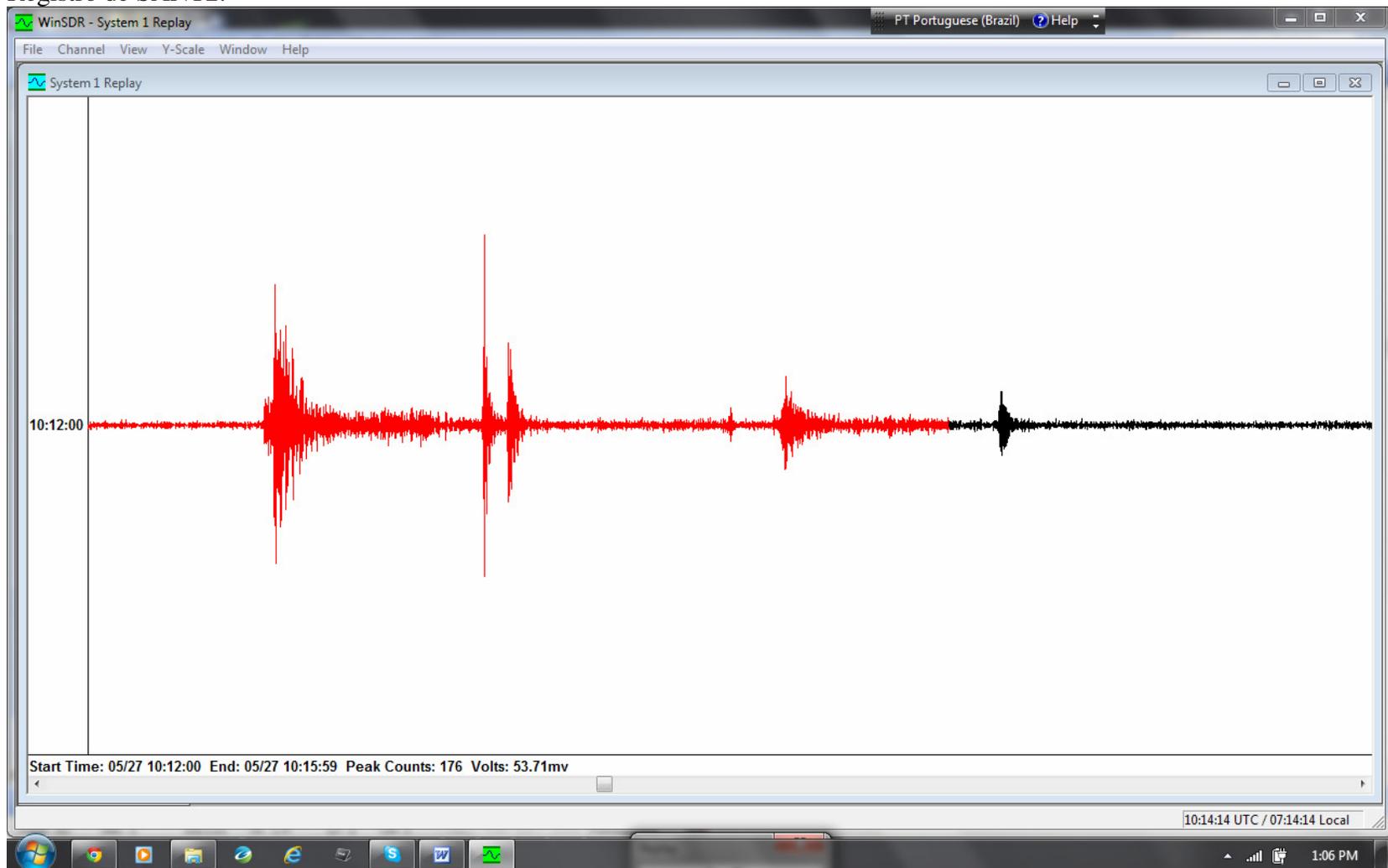
Evento 18 – detalhe do registro da detonação observada por SAML.

Registro de SANT1:



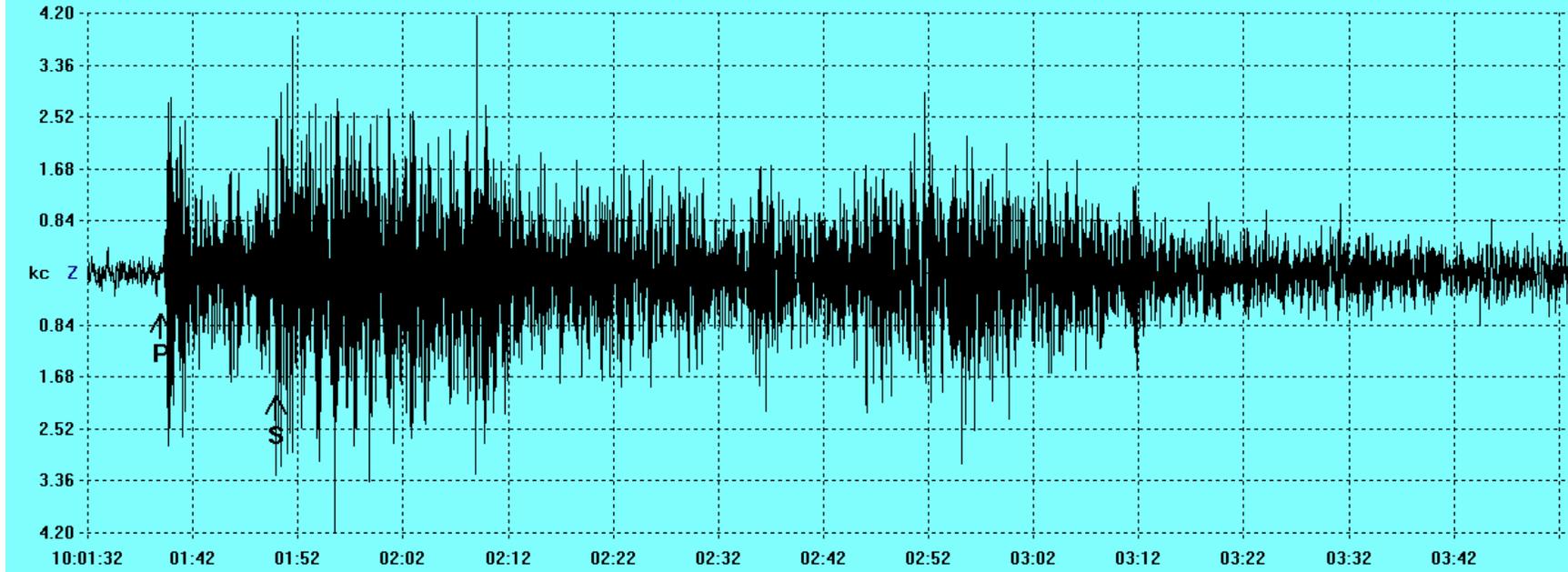
Evento 18

Registro de SANT2:



Evento 18

Start: 5/30/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 4168/-4184 X: 2.21.0 Y: 4.2kc
Org: 10:01:24.0 P: 10:01:38.9 S: 10:01:49.9 Diff: 11.0sec Dist: 0.772deg 85.8km 53.3mi Mag: MI?? JB: 33



Evento 19 – eventos sobrepostos.

Registro de SANT1:



Evento 19

Registro de SANT2:



Evento 19.

Principais Telessismos Registrados no Canteiro de Obras da UHE Santo Antônio

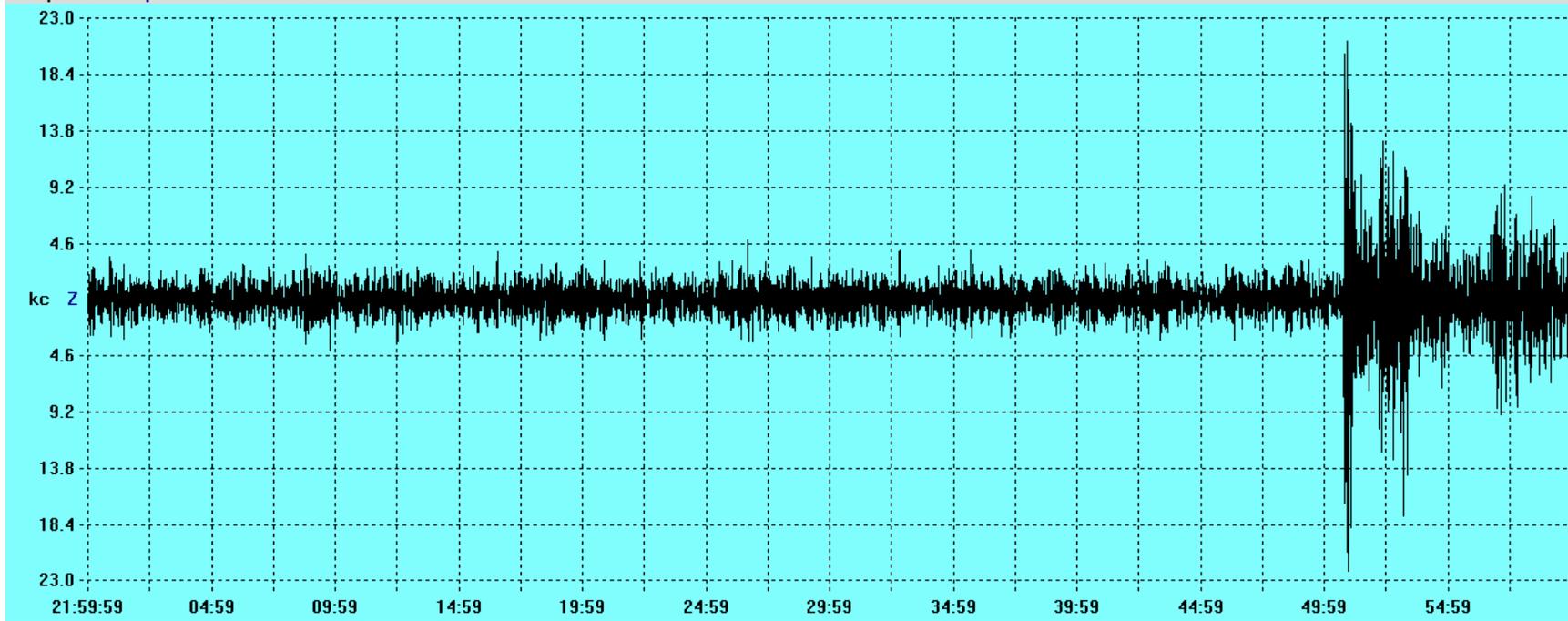
**Maio
2012**

Registros das Estação SAML

O sismograma a seguir foi filtrado usando-se o filtro band-pass (entre 0.3 e 1.0 Hz):

Start: 5/01/12 21:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

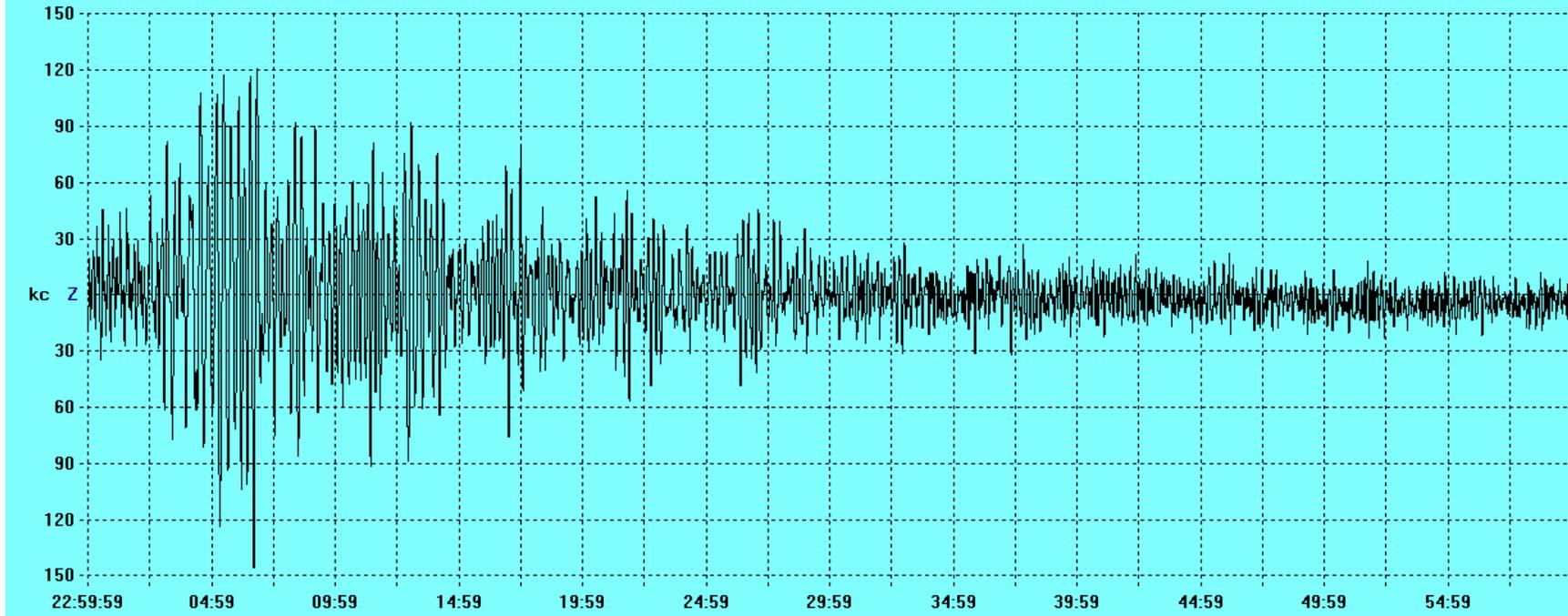
Max/Min: 21080/-22166 X: 1:00:00 Y: 23kc



PDE-Q 2012 05 01 224333.34 14.38 -92.90 14 6.0 MwWCMT 5FM

Hora consecutiva à do sismograma acima (sismograma filtrado usando-se o filtro low-pass de 1.0 Hz):

Start: 5/01/12 22:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999
Max/Min: 120509/-145861 X: 1:00:00 Y: 150kc

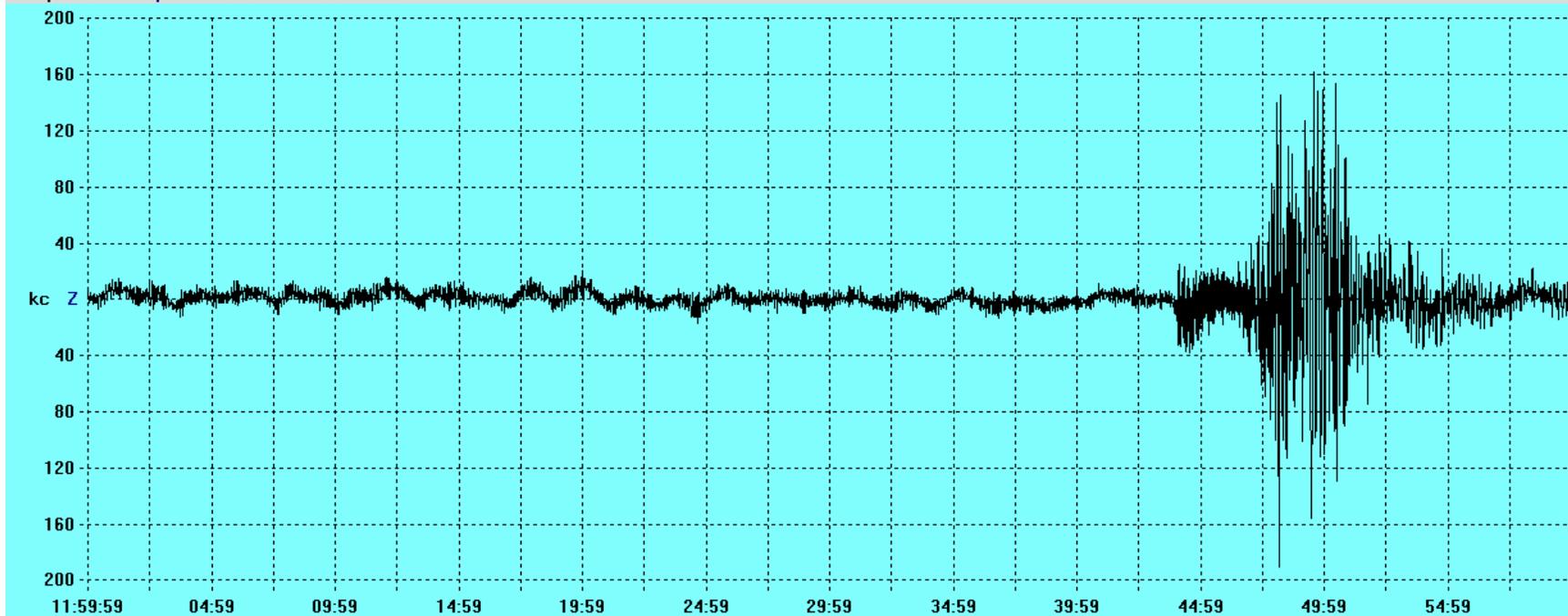


PDE-Q 2012 05 01 224333.34 14.38 -92.90 14 6.0 MwWCMT 5FM

O sismograma a seguir não foi filtrado:

Start: 5/06/12 11:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 161579/-190427 X: 1:00:00 Y: 200kc

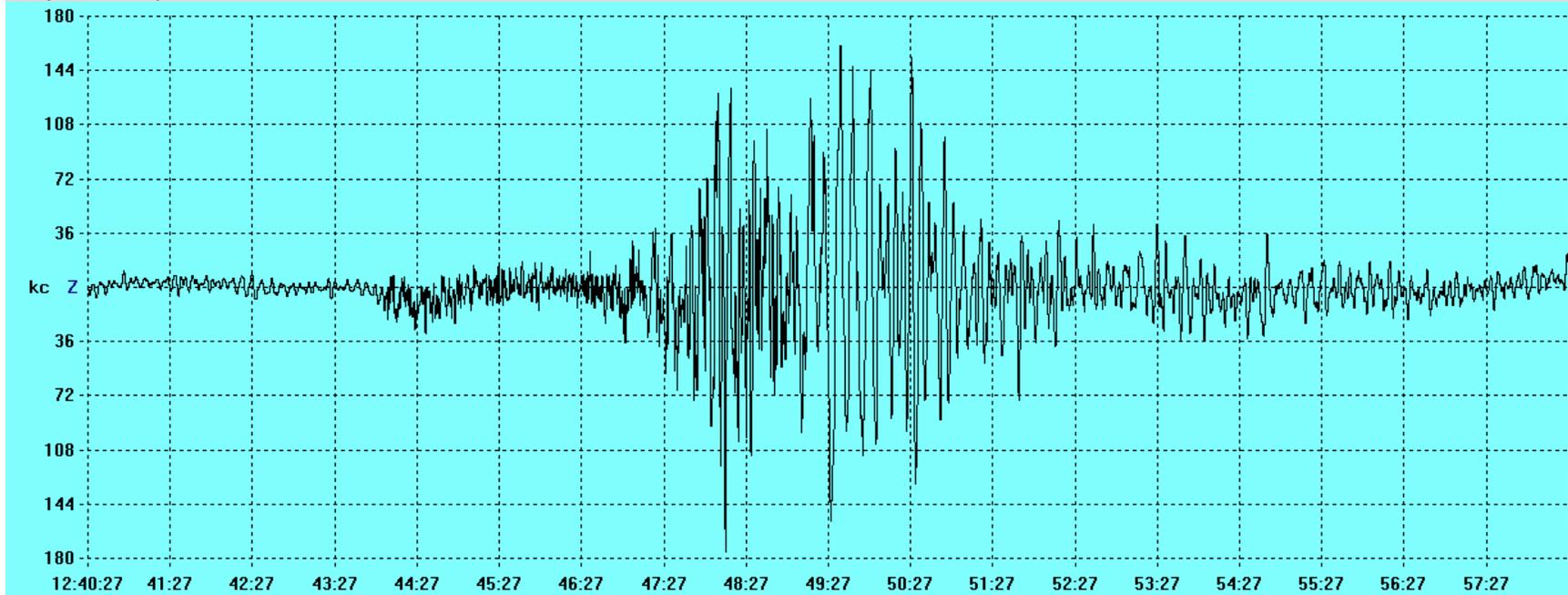


PDE-Q 2012 05 06 124101.33 -13.81 -75.75 75 5.6 MwGCMT

Versão filtrada (low-pass, de 1.0 Hz) do sismograma acima (em detalhe):

Start: 5/06/12 11:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 160152/-176050 X: 18:02.0 Y: 180kc

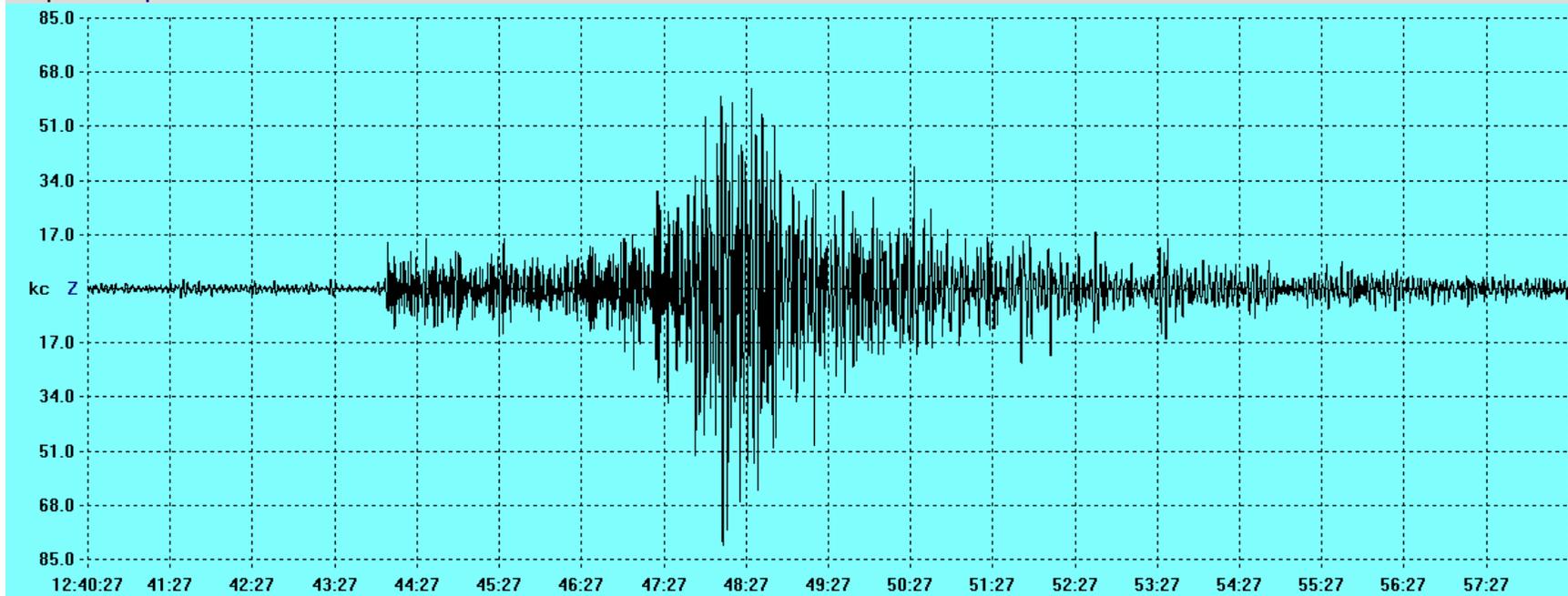


PDE-Q 2012 05 06 124101.33 -13.81 -75.75 75 5.6 MwGCMT

Versão filtrada (band-pass, entre 0.3 e 1.0 Hz) do sismograma acima:

Start: 5/06/12 11:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 62756/-80416 X: 18:02.0 Y: 85kc

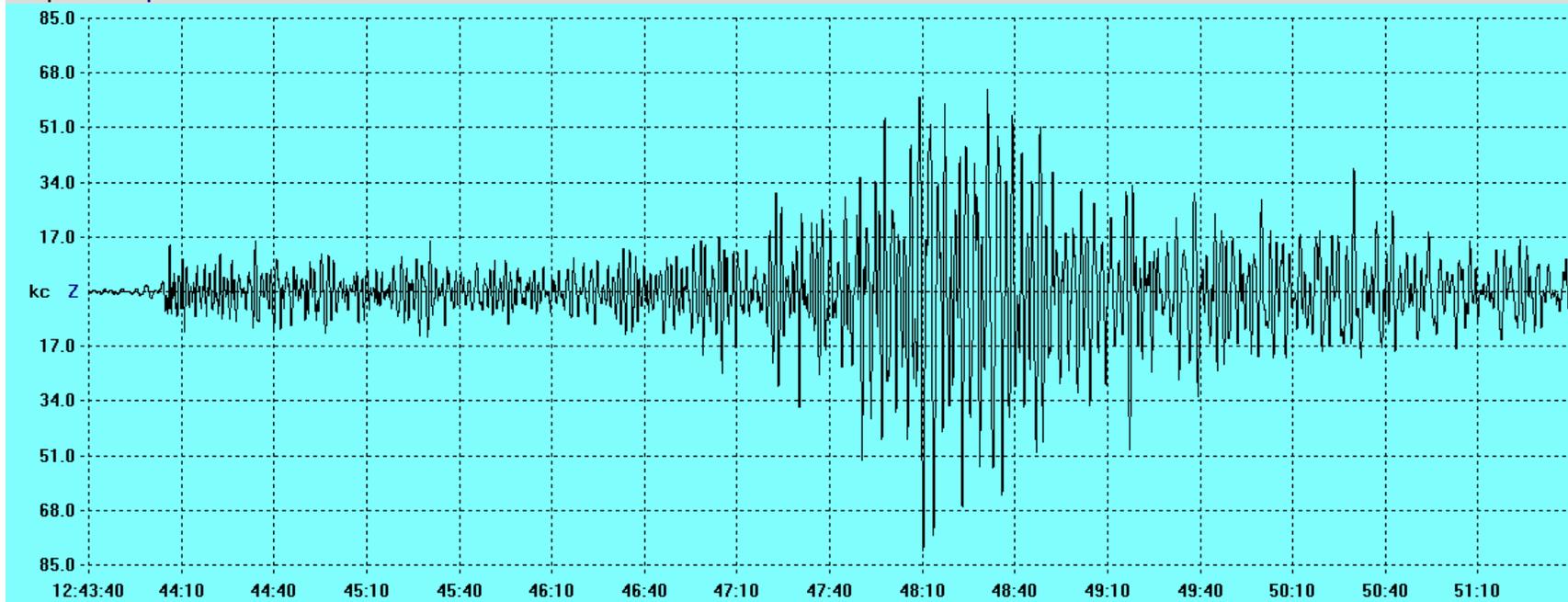


PDE-Q 2012 05 06 124101.33 -13.81 -75.75 75 5.6 MwGCMT

Detalhe do sismograma acima:

Start: 5/06/12 11:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 62756/-80416 X: 8:05.0 Y: 85kc

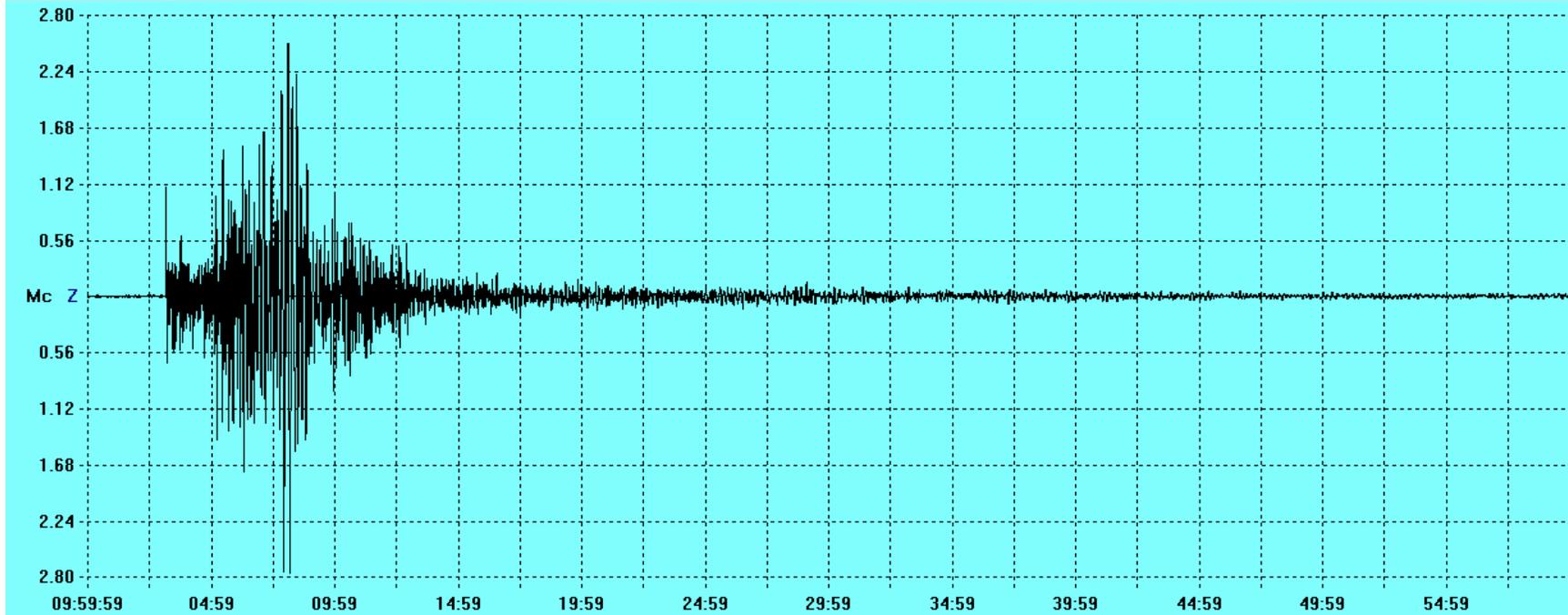


PDE-Q 2012 05 06 124101.33 -13.81 -75.75 75 5.6 MwGCMT

O sismograma a seguir não foi filtrado:

Start: 5/14/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 2518151/-2755079 X: 1:00:00 Y: 2.8Mc

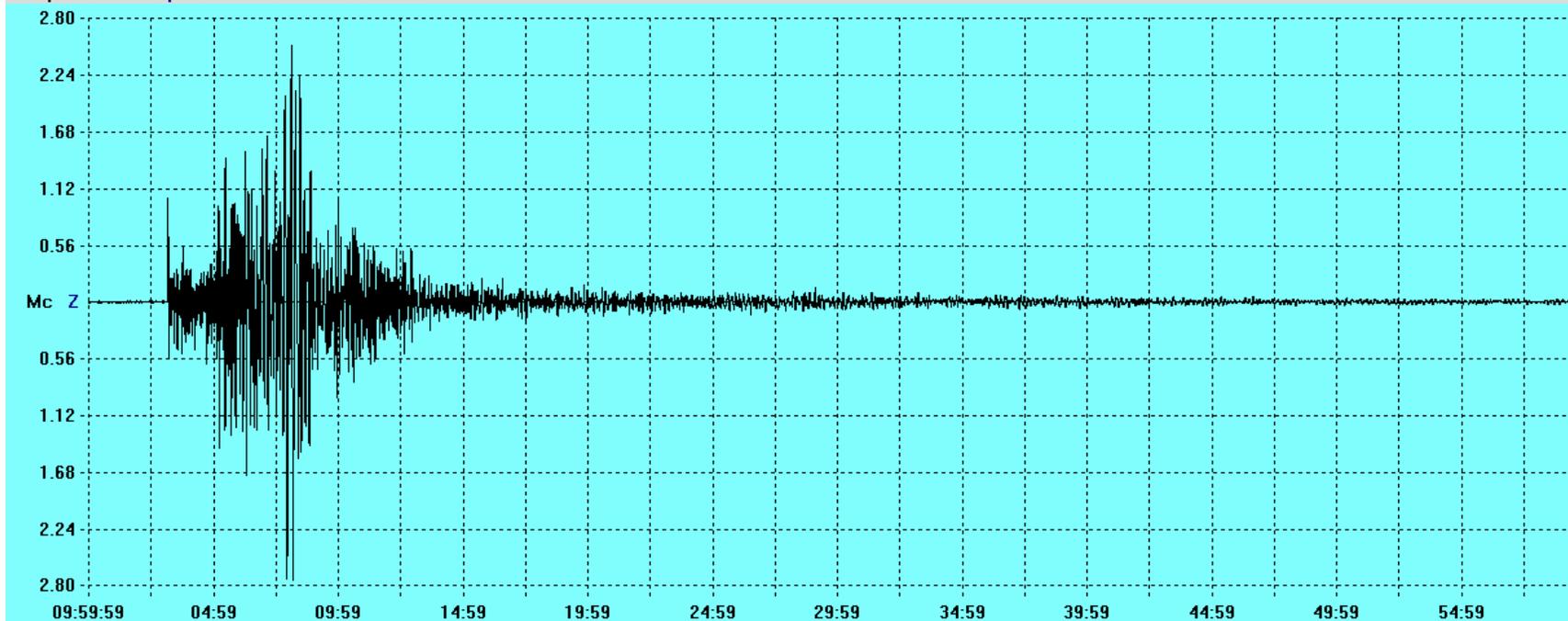


PDE-Q 2012 05 14 100039.24 -17.82 -69.75 98 6.2 MwWCMT

Versão filtrada (low-pass de 1.0 Hz) do sismograma acima:

Start: 5/14/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 2519624/-2747909 X: 1:00:00 Y: 2.8Mc

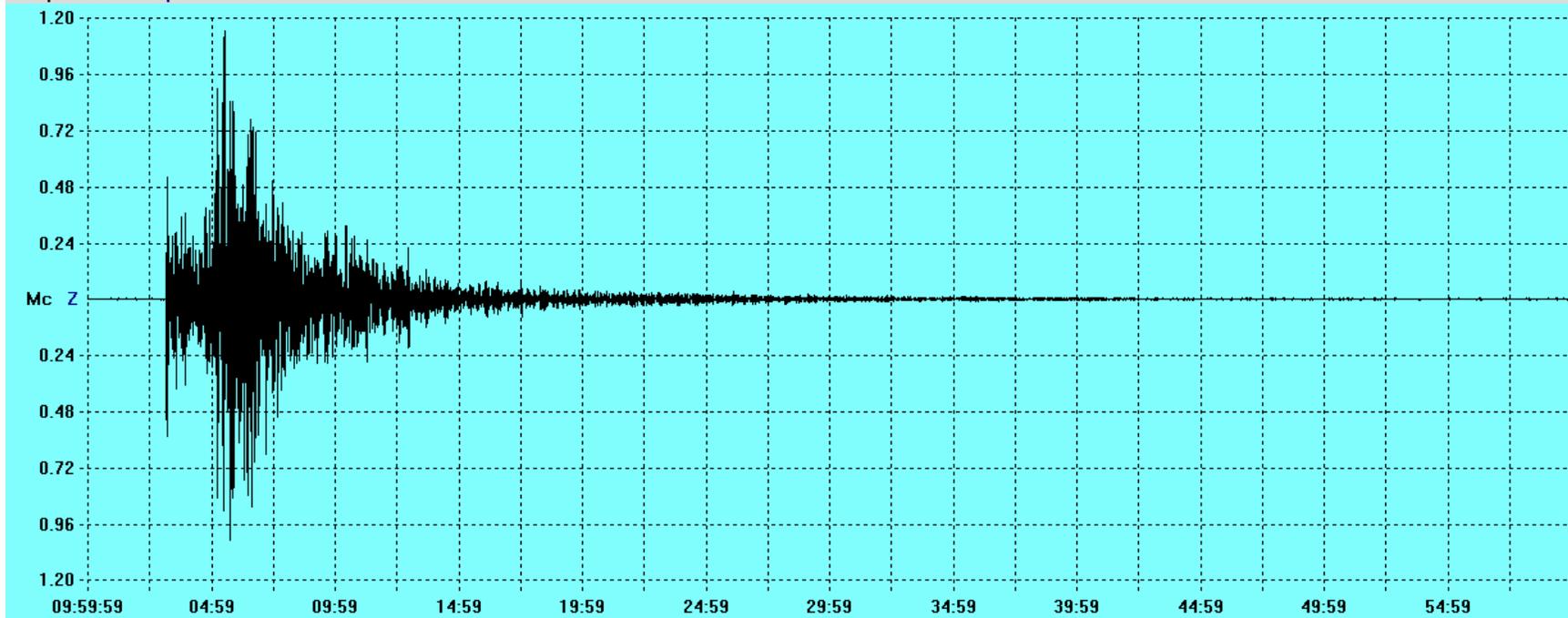


PDE-Q 2012 05 14 100039.24 -17.82 -69.75 98 6.2 MwWCMT

Versão filtrada (band-pass entre 0.3 e 1.0 Hz) do sismograma acima:

Start: 5/14/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 1143771/-1025657 X: 1:00:00 Y: 1.2Mc

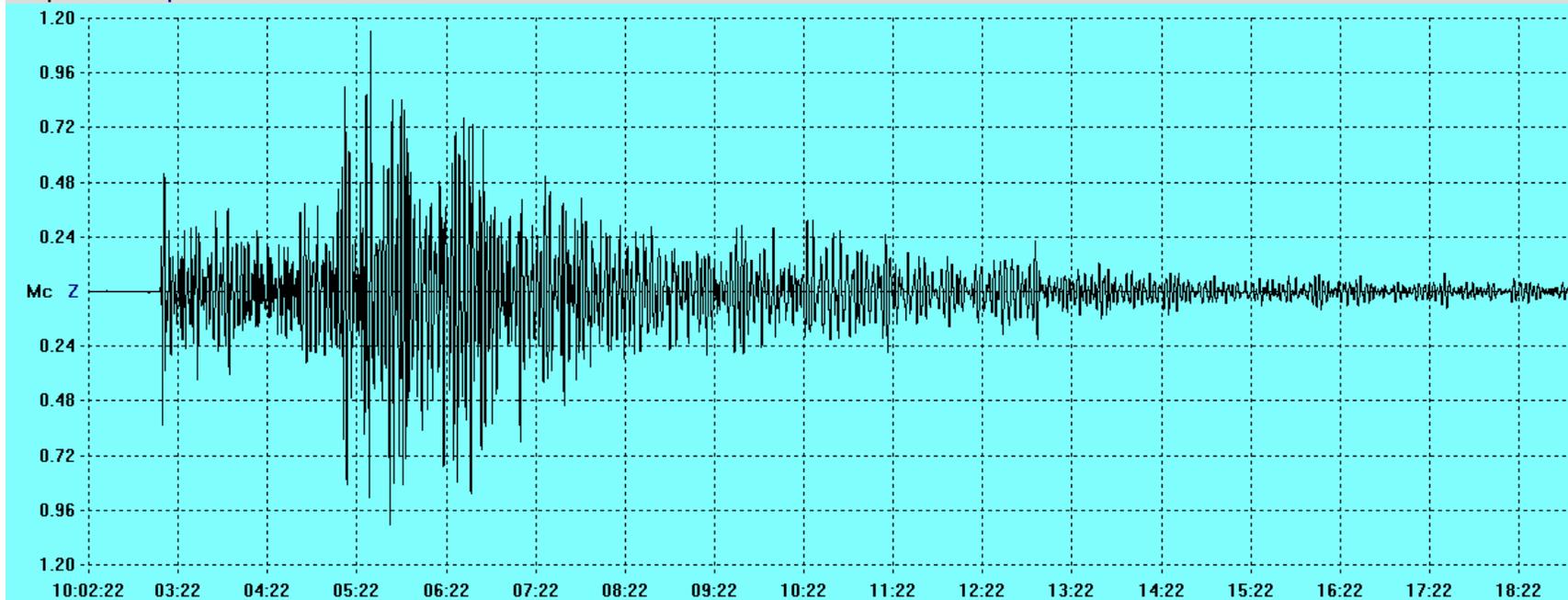


PDE-Q 2012 05 14 100039.24 -17.82 -69.75 98 6.2 MwWCMT

Detalhes do sismograma acima:

Start: 5/14/12 9:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 1143771/-1025657 X: 16:45.0 Y: 1.2Mc

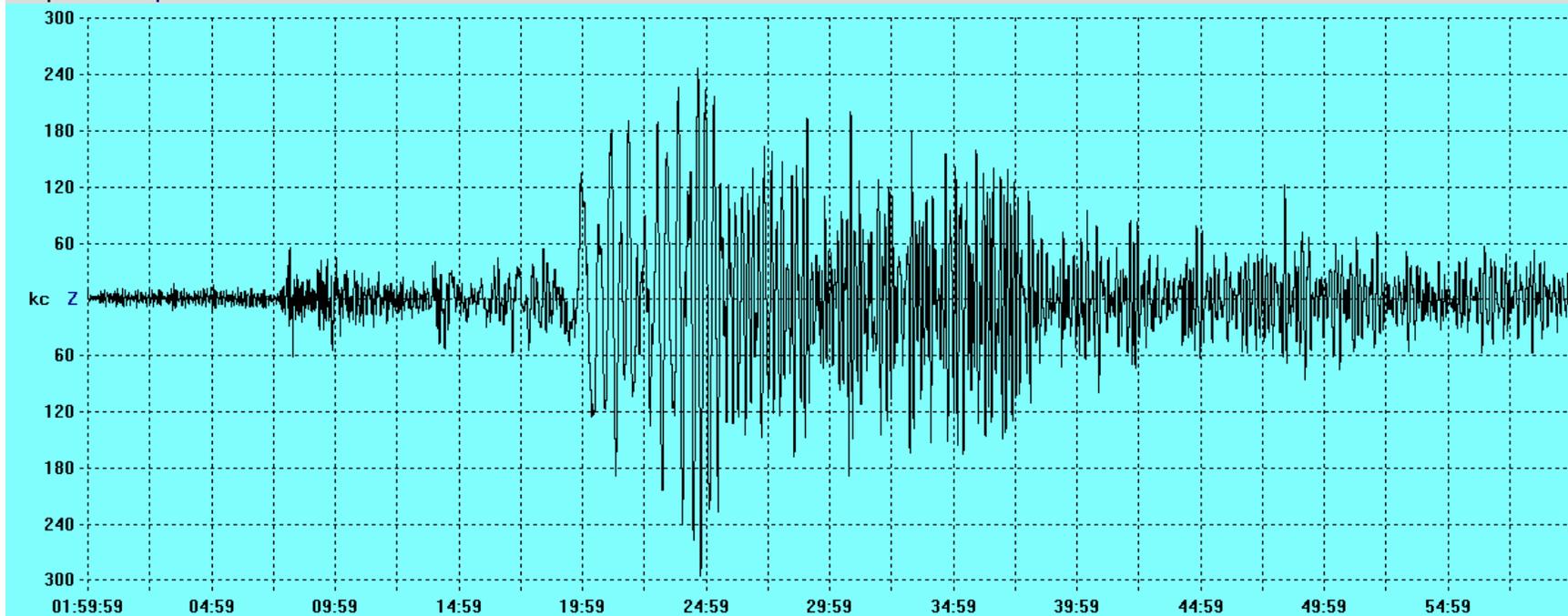


PDE-Q 2012 05 14 100039.24 -17.82 -69.75 98 6.2 MwWCMT

O sismograma a seguir não foi filtrado:

Start: 5/18/12 1:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 246064/-295467 X: 1:00:00 Y: 300kc

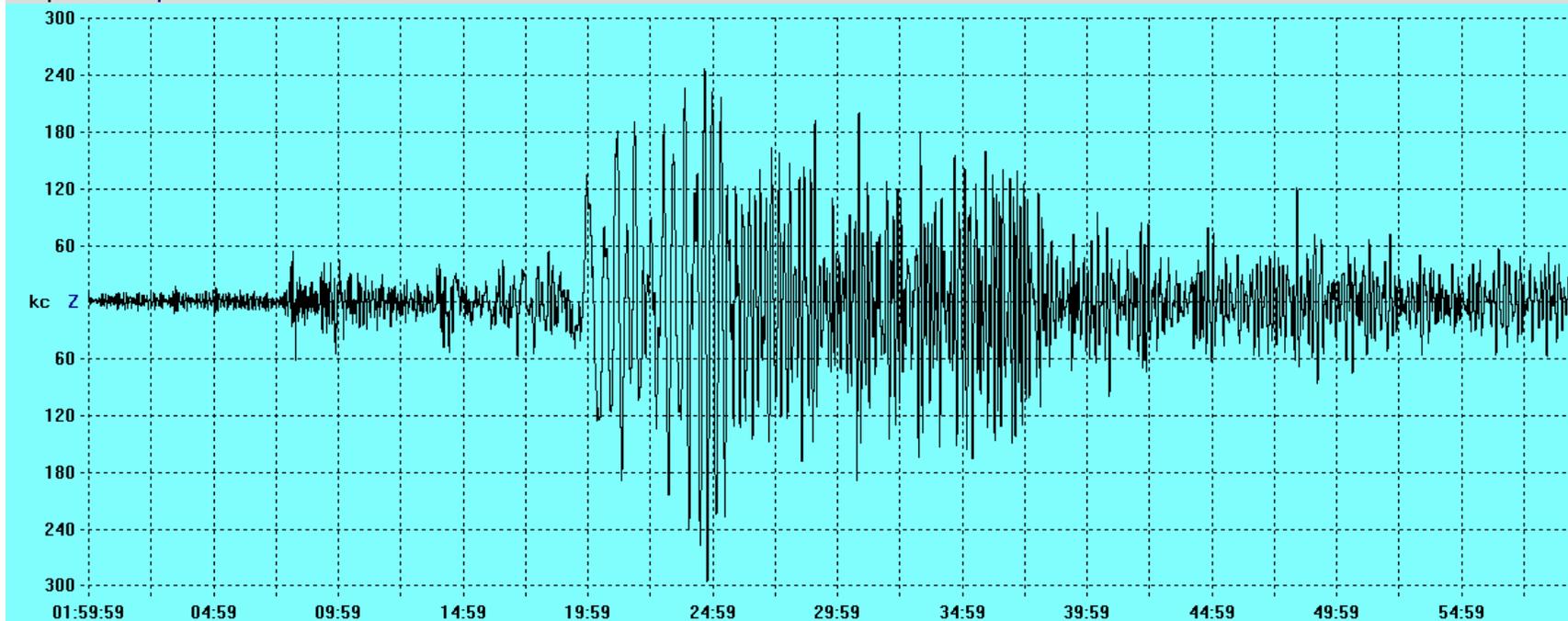


PDE-Q 2012 05 18 020040.39 -44.63 -80.10 10 6.3 MwWCMT

Versão filtrada (low-pass de 1.0 Hz) do sismograma acima:

Start: 5/18/12 1:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 245896/-295452 X: 1:00:00 Y: 300kc

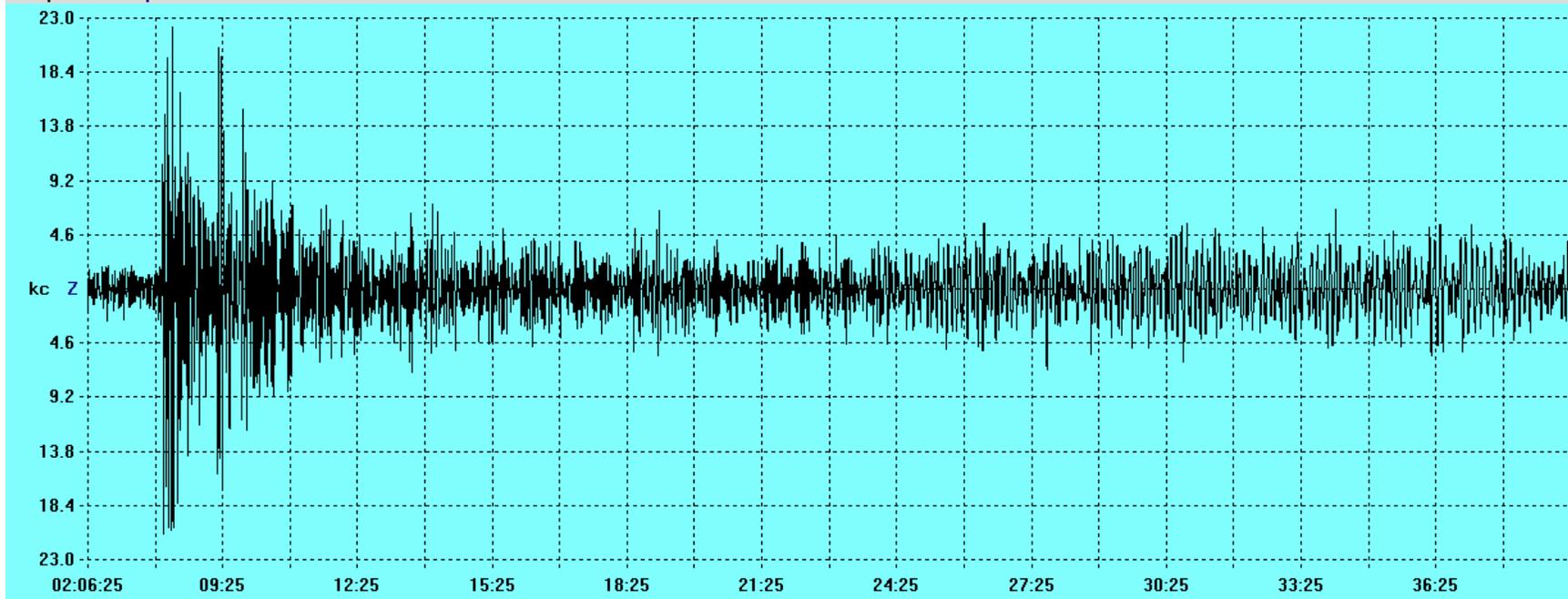


PDE-Q 2012 05 18 020040.39 -44.63 -80.10 10 6.3 MwWCMT

Versão filtrada (band-pass entre 0.3 e 1.0 Hz) do sismograma acima (em detalhe):

Start: 5/18/12 1:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 22206/-20812 X: 33:01.0 Y: 23kc

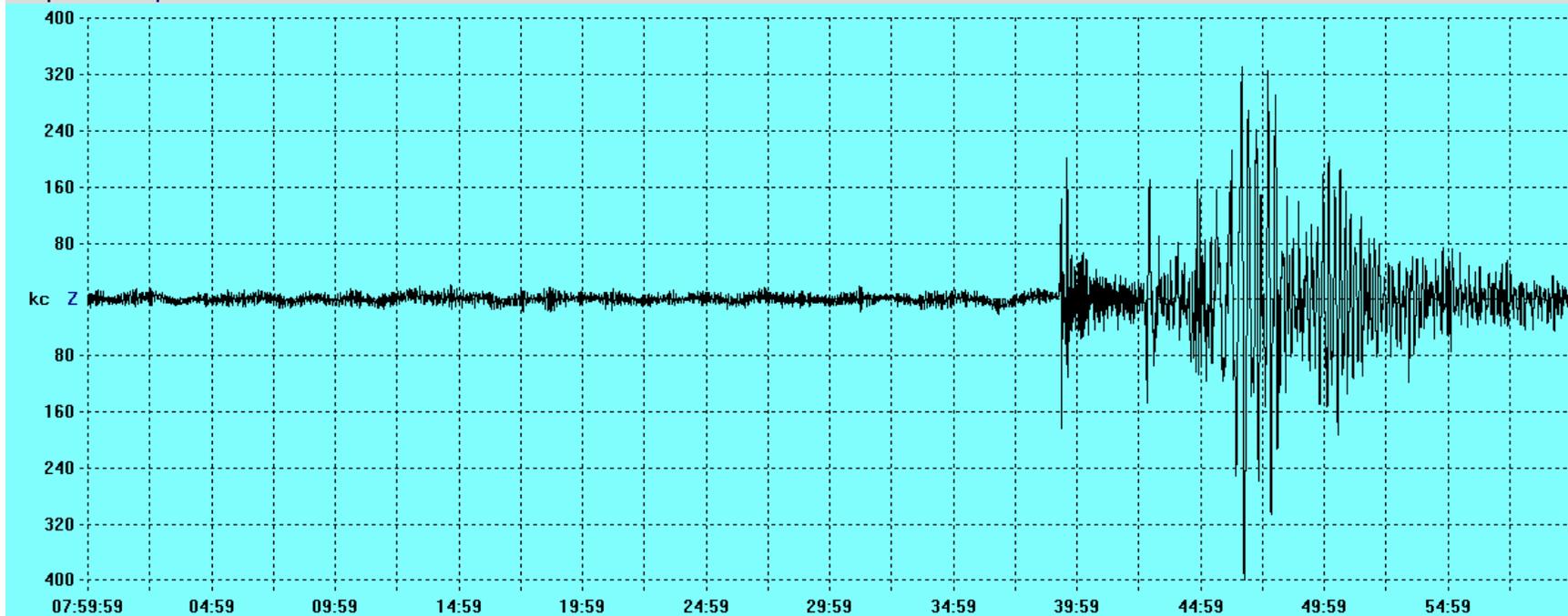


PDE-Q 2012 05 18 020040.39 -44.63 -80.10 10 6.3 MwWCMT

O sismograma a seguir não foi filtrado:

Start: 5/19/12 7:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 330630/-398861 X: 1:00:00 Y: 400kc

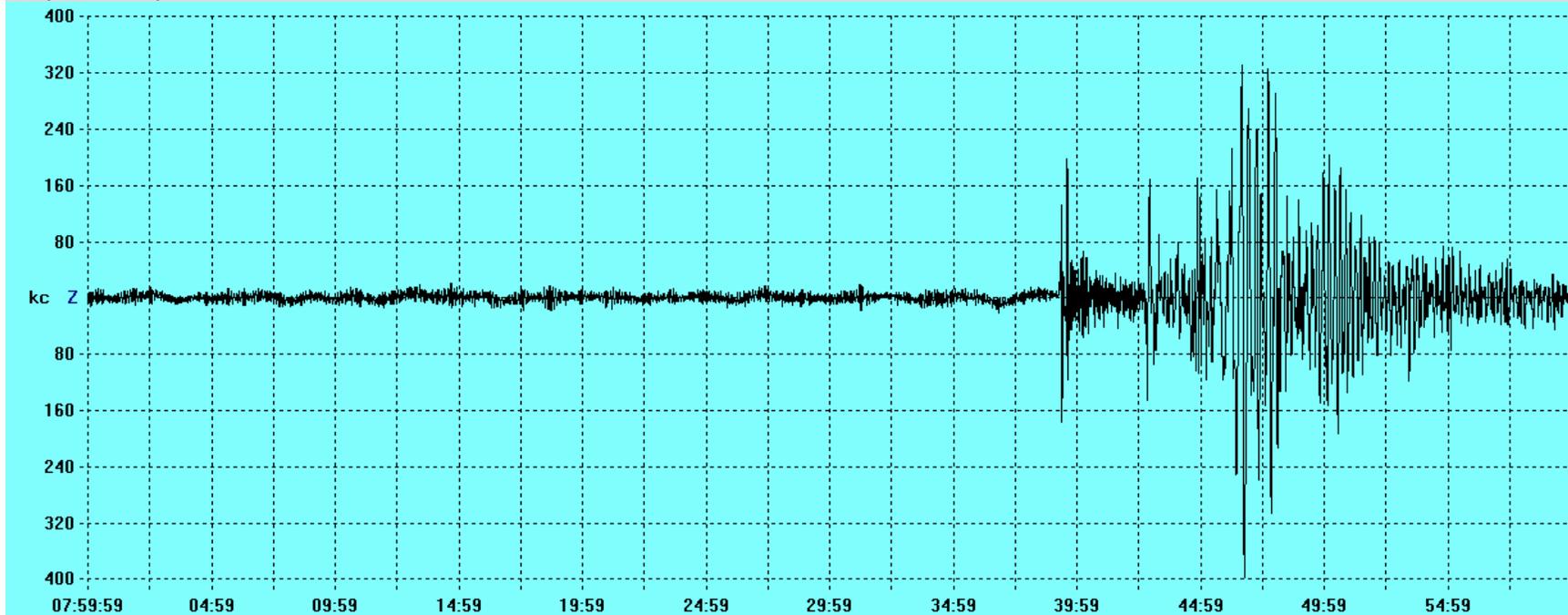


PDE-Q 2012 05 19 083510.70 -25.73 -70.56 28 5.8 MwWCMT

Versão filtrada (low-pass abaixo de 1.0 Hz) do sismograma acima:

Start: 5/19/12 7:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 329500/-398036 X: 1:00:00 Y: 400kc

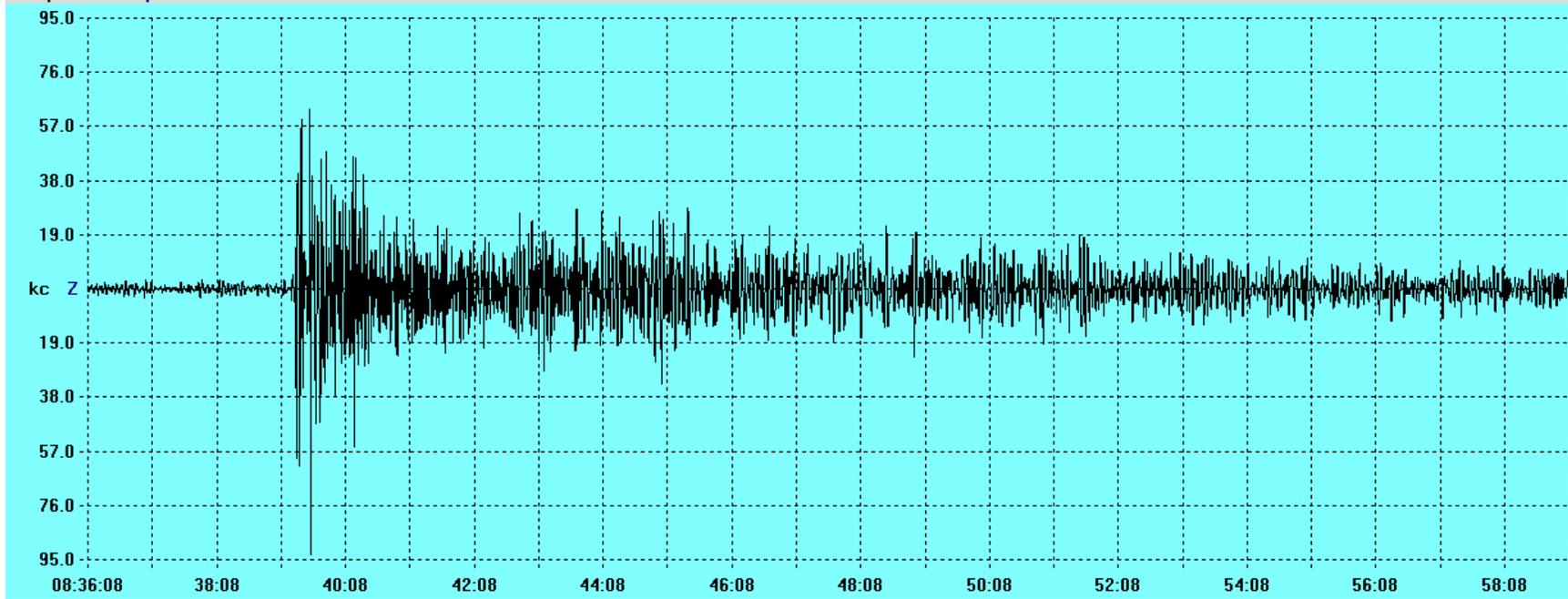


PDE-Q 2012 05 19 083510.70 -25.73 -70.56 28 5.8 MwWCMT

Versão filtrada (band-pass, entre 0.3 e 1.0 Hz) do sismograma acima (detalhes):

Start: 5/19/12 7:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 63196/-93387 X: 23:02.0 Y: 95kc

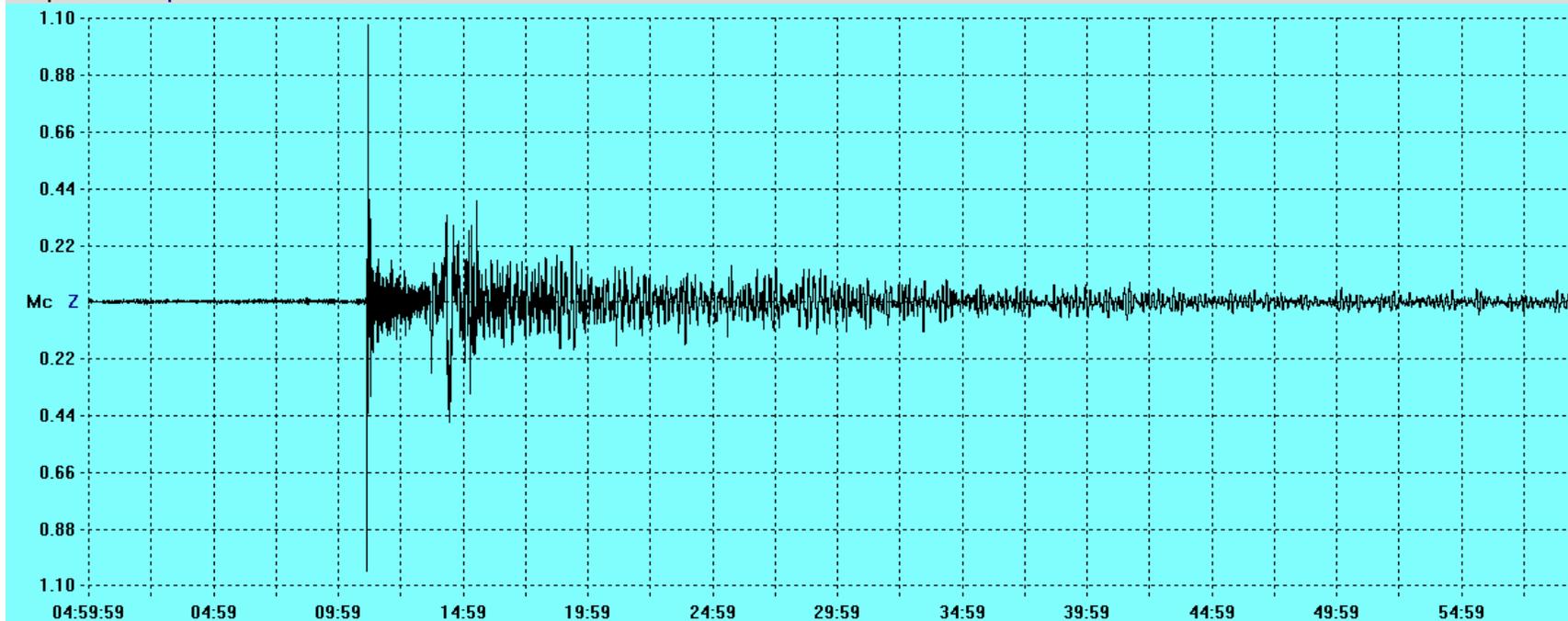


PDE-Q 2012 05 19 083510.70 -25.73 -70.56 28 5.8 MwWCMT

O sismograma a seguir não foi filtrado:

Start: 5/28/12 4:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 1073320/-1041829 X: 1:00:00 Y: 1.1Mc

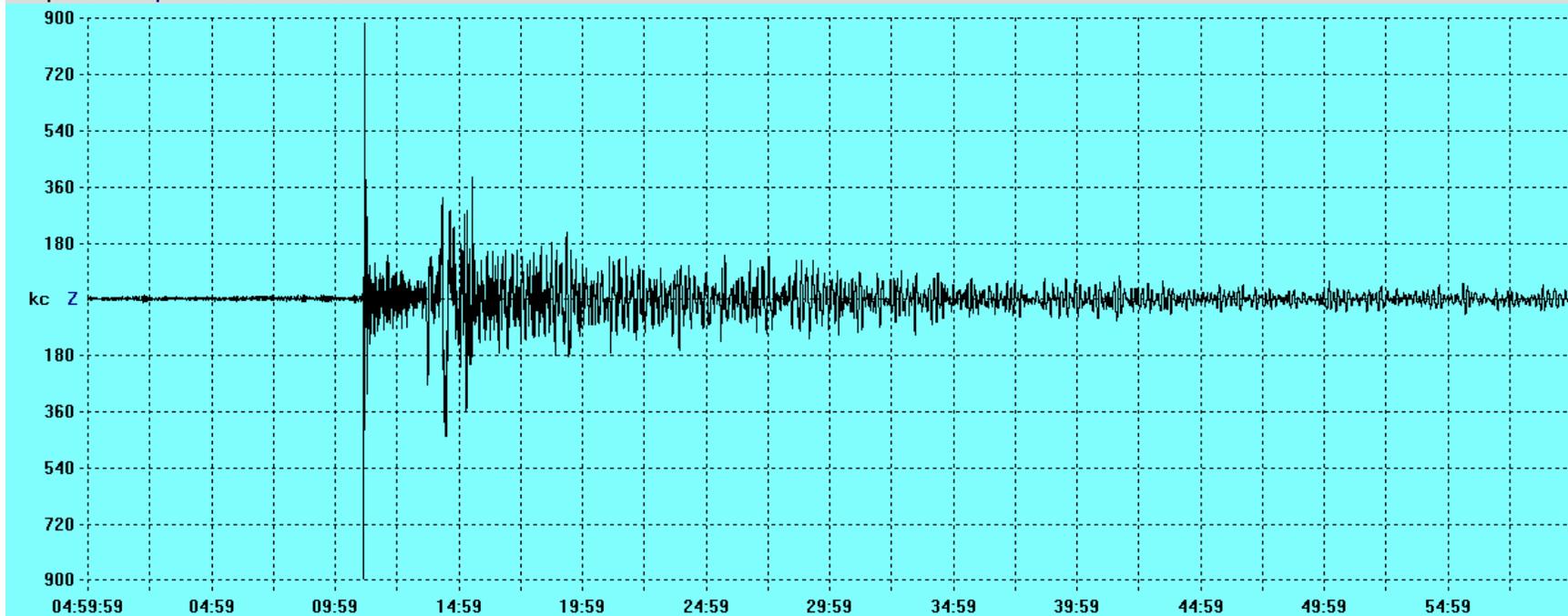


PDE-Q 2012 05 28 050723.74 -28.06 -63.08 588 6.7 MwWCMT

Versão filtrada (low-pass de 1.0) do sismograma acima:

Start: 5/28/12 4:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 882945/-892117 X: 1:00:00 Y: 900kc

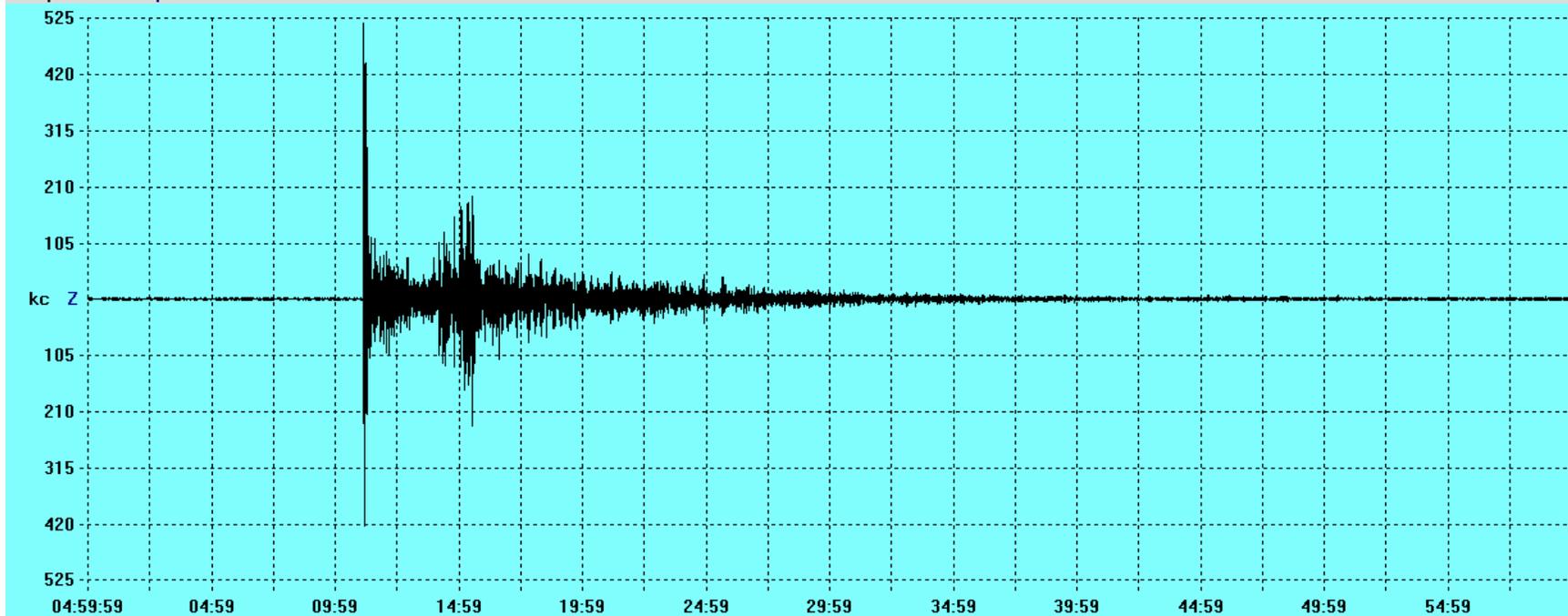


PDE-Q 2012 05 28 050723.74 -28.06 -63.08 588 6.7 MwWCMT

Versão filtrada (band-pass entre 0.3 e 1.0 Hz) do sismograma acima:

Start: 5/28/12 4:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 513722/-423200 X: 1:00:00 Y: 525kc

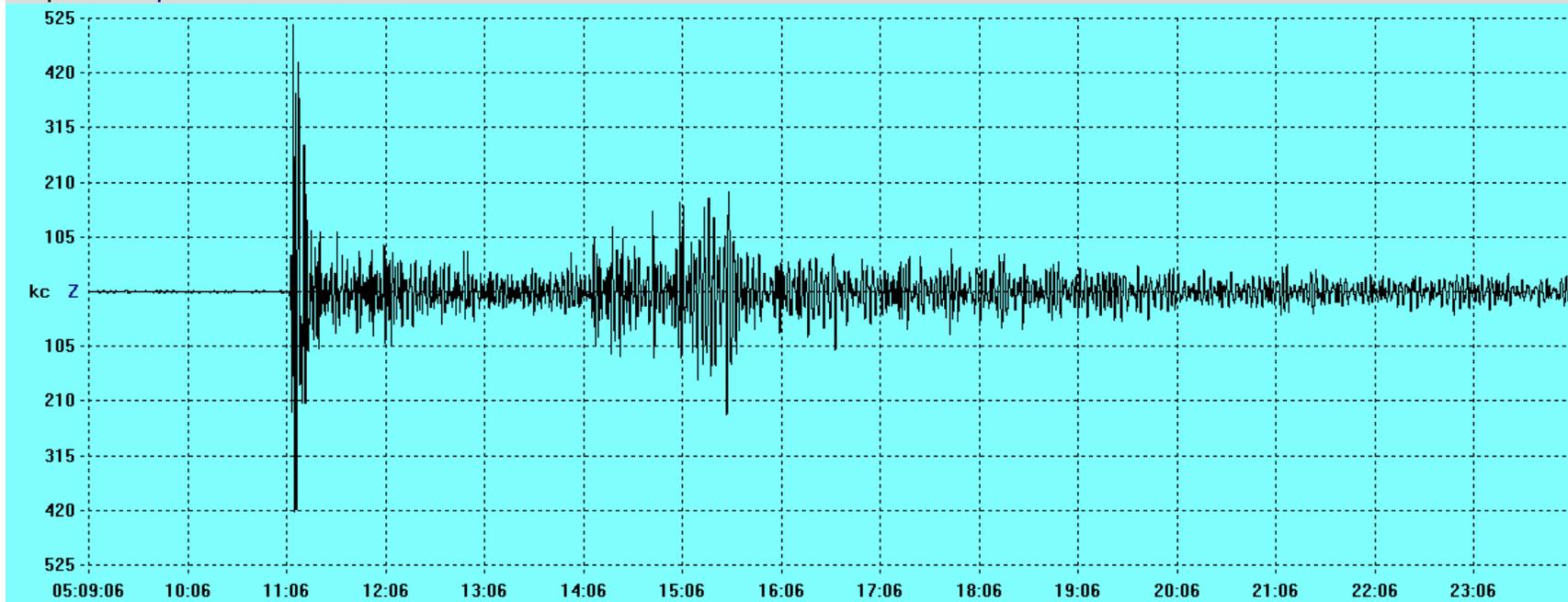


PDE-Q 2012 05 28 050723.74 -28.06 -63.08 588 6.7 MwWCMT

Detalhes do sismograma acima:

Start: 5/28/12 4:59:59 UTC Station: SAML 8.9489S 63.1831W Samples: 144001 SPS: 39.999999

Max/Min: 513722/-423200 X: 15:08.0 Y: 525kc



PDE-Q 2012 05 28 050723.74 -28.06 -63.08 588 6.7 MwWCMT