Señales de EEG
Bases de Datos

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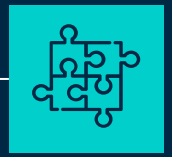
Bases de Datos

	**CHB - MIT**	Dataset of 24 subjects, all human females and males. Dataset was recorded with the help of 23 electrodes placed on scalp of epilepsy patients
	**Bonn**	The dataset comprises five subsets, where each one contains 100 single-channels recording
	**TUH**	The dataset consists of both generalized and focal seizure.
	**Freiburg**	This dataset was collected from the invasive EEG recordings of 21 patients suffering from medically intractable focal epilepsy.
	**BERN Barcelona**	This dataset comprised EEG recordings derived from fve pharmacoresistant temporal lobe epilepsy patients. This dataset is good for the seizure localization purpose.

CONTENIDO



01

CHB - MIT

02

TUH

03

Bonn University

04

BERN Barcelona

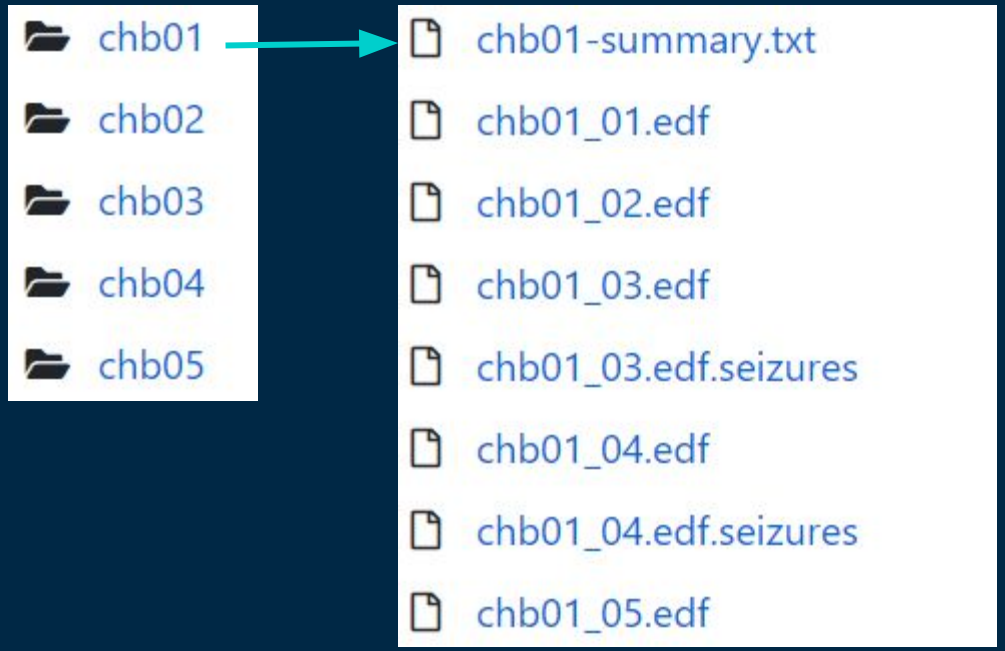
CHB – MIT

22 individuos pediátricos con crisis epilépticas intratables

- Señales agrupadas en 23 casos.
- Cada caso tiene entre 9 y 42 archivos .EDF.
- Cada archivo tiene entre 23 y 26 señales EEG.

Las señales muestran 256 muestras por segundo con 16bits de resolución.

Se utilizó el sistema internacional 10-20 de posiciones y nomenclatura de electrodos de EEG.



664 archivos .EDF

129 archivos registran ataques de epilepsia

En total, se presentan 198 episodios epilépticos

https://physionet.org/content/chbmit/1.0.0/#files-panel

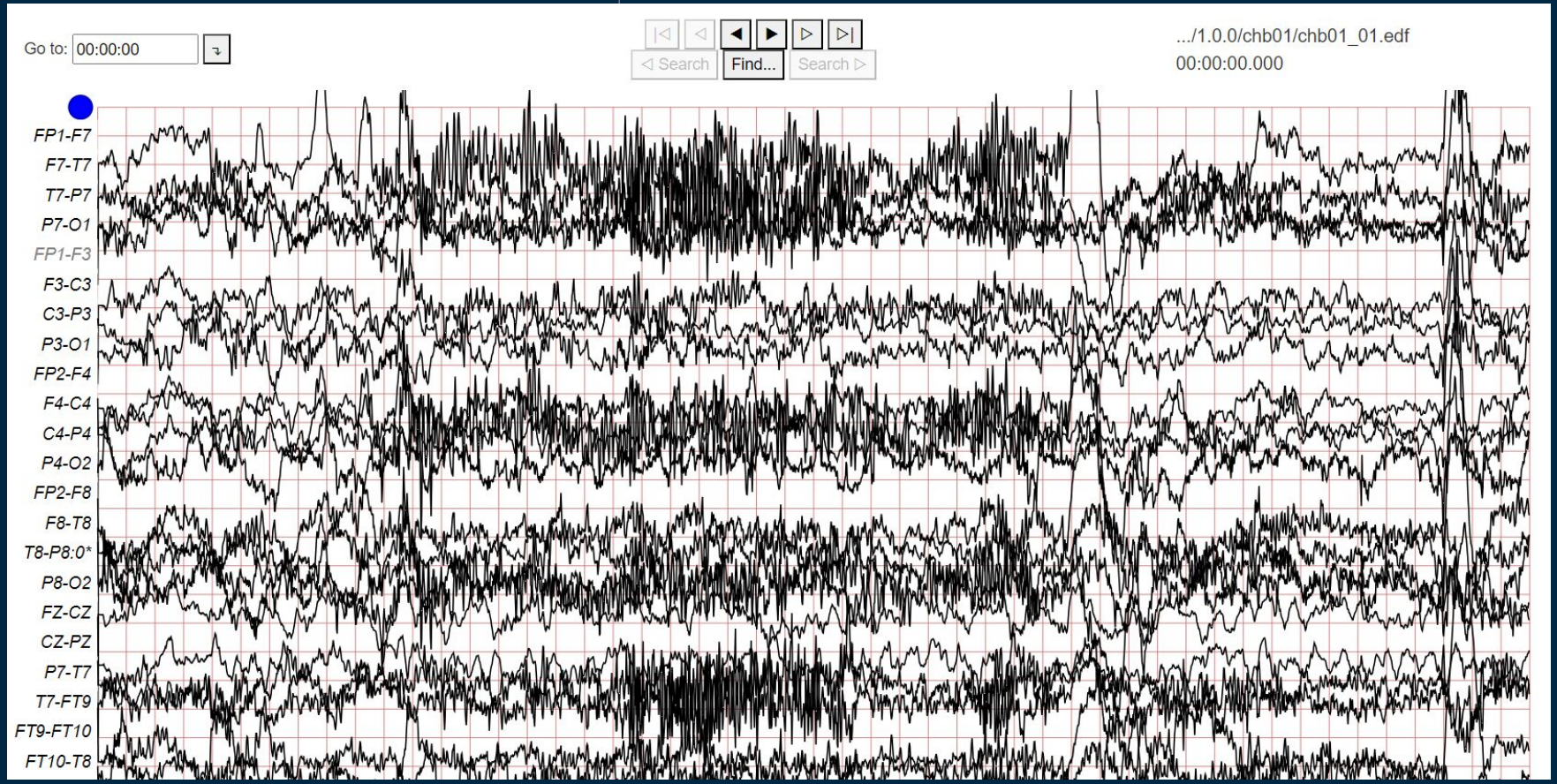
```
Data Sampling Rate: 256 Hz
*************************

Channels in EDF Files:
**********************
Channel 1: FP1-F7
Channel 2: F7-T7
Channel 3: T7-P7
Channel 4: P7-O1
Channel 5: FP1-F3
Channel 6: F3-C3
Channel 7: C3-P3
Channel 8: P3-O1
Channel 9: FP2-F4
Channel 10: F4-C4
Channel 11: C4-P4
Channel 12: P4-O2
Channel 13: FP2-F8
Channel 14: F8-T8
Channel 15: T8-P8
Channel 16: P8-O2
Channel 17: FZ-CZ
Channel 18: CZ-PZ
Channel 19: P7-T7
Channel 20: T7-FT9
Channel 21: FT9-FT10
Channel 22: FT10-T8
Channel 23: T8-P8
```

```
File Name: chb01_01.edf
File Start Time: 11:42:54
File End Time: 12:42:54
Number of Seizures in File: 0

File Name: chb01_02.edf
File Start Time: 12:42:57
File End Time: 13:42:57
Number of Seizures in File: 0

File Name: chb01_03.edf
File Start Time: 13:43:04
File End Time: 14:43:04
Number of Seizures in File: 1
Seizure Start Time: 2996 seconds
Seizure End Time: 3036 seconds
```



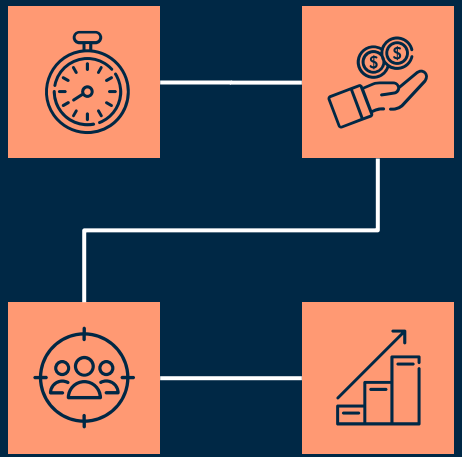
https://physionet.org/lightwave/?db=chbmit/1.0.0

CONDICIONES DE LOS PACIENTES

Subjects were monitored for up to several days following withdrawal of anti-seizure medication in order to characterize their seizures and assess their candidacy for surgical intervention.

The Temple University Hospital (TUH)

Los datos se recogieron de los registros de archivo del Hospital de la Universidad de Temple (TUH).



14 años de información

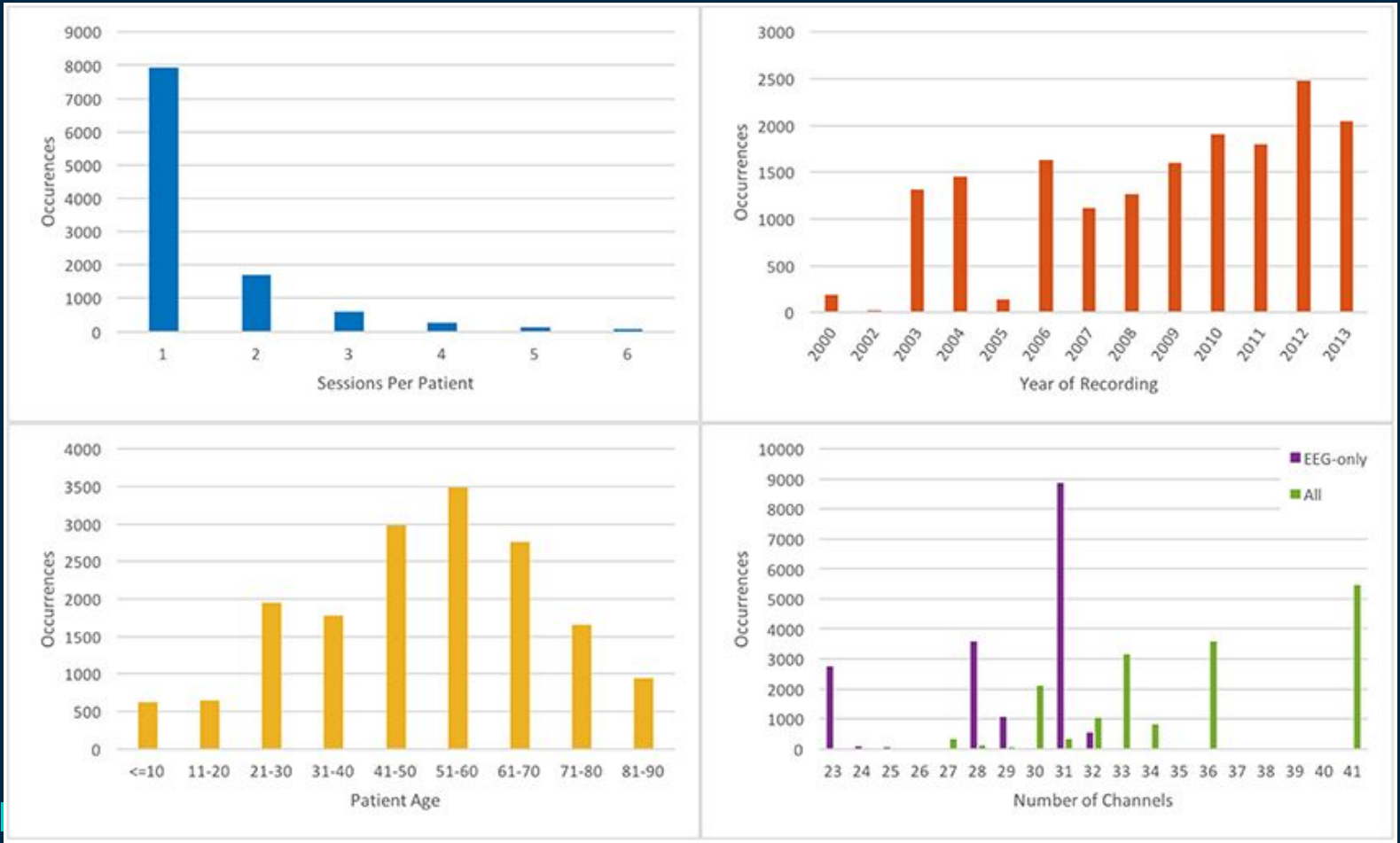
Las señales de EEG fueron convertidas a formato EDF y se asignaron valores numéricos a los registros

El corpus se definió con una estructura jerárquica de árbol de archivos al estilo Unix.

Propuesta de valor

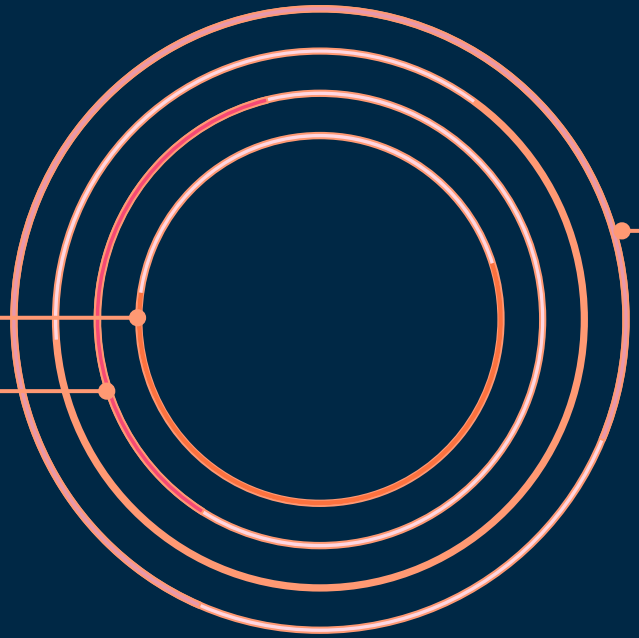
"Typically, "research-grade" data is created by tightly controlling as many external factors as possible. In contrast, "clinical-grade" data is inherently heterogeneous with respect to those same external factors. [...] Algorithms that must be sufficiently robust to function under a plurality of conditions must be trained with data that is sufficiently heterogeneous."

—Obeid y Picone (2016)

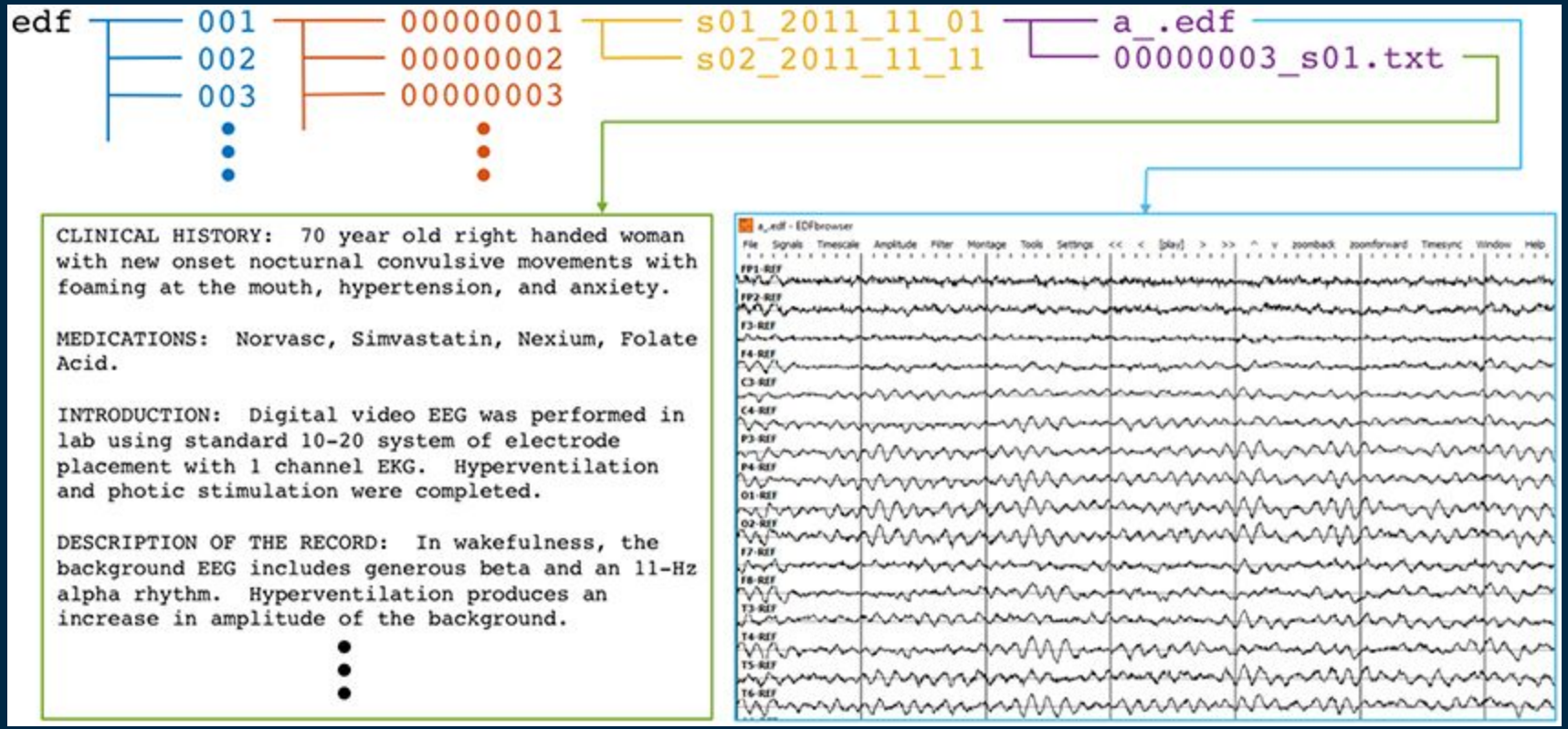

9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Occurences
1
2
3
4
5
6
Sessions Per Patient
3000
2500
2000
1500
1000
500
0
Occurrences
2000
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Year of Recording
4000
3500
3000
2500
2000
1500
1000
500
0
Occurrences
<=10
11-20
21-30
31-40
41-50
51-60
61-70
71-80
81-90
Patient Age
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Occurrences
EEG-only
All
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41
Number of Channels

El 51% de los sujetos eran mujeres; las edades comprenden entre menos de 1 año y más de 90 años.

En promedio, cada sesión presentó 31 canales de EEG



El corpus completo comprende 16.986 sesiones de 10.874 sujetos únicos. Cada una de estas sesiones contiene al menos un archivo EDF y un informe del médico.


edf
001
002
003
00000001
00000002
00000003
s01_2011_11_01
s02_2011_11_11
a_.edf
00000003_s01.txt
CLINICAL HISTORY: 70 year old right handed woman with new onset nocturnal convulsive movements with foaming at the mouth, hypertension, and anxiety.
MEDICATIONS: Norvasc, Simvastatin, Nexium, Folate Acid.
INTRODUCTION: Digital video EEG was performed in lab using standard 10-20 system of electrode placement with 1 channel EKG. Hyperventilation and photic stimulation were completed.
DESCRIPTION OF THE RECORD: In wakefulness, the background EEG includes generous beta and an 11-Hz alpha rhythm. Hyperventilation produces an increase in amplitude of the background.
a_.edf - EDFbrowser
File Signals Timescale Amplitude Filter Montage Tools Settings << < [play] > >> ^ v zoomback zoomforward Timesync Window Help
FP1-REF
FP2-REF
F3-REF
F4-REF
C3-REF
C4-REF
P3-REF
P4-REF
O1-REF
O2-REF
F7-REF
F8-REF
T3-REF
T4-REF
T5-REF
T6-REF

The data available from the NEDC web site is offered free and without restriction, except for a few conditions below that you must abide by:

(1) The user should acknowledge the provider of this data using the publication listed in the documentation included with the specific corpus (typically found in the AAREADME file).

(2) The user will not release data to a third party or redistribute the data. Please have the third party contact us directly by sending an email to help@nedcdata.org.

(3) The user agrees that no attempts will be made to re-identify the subjects, who have been anonymized in this distribution.

(4) The user will not use the data for malicious purposes. This data can be used for research and technology development, but not for uses beyond these broad classifications.

(5) The data recipient will delete the data from all computer systems when finished with the data.

Contact Information:

Your Legal Name	
Your Institutional Affiliation (Complete Name – No Abbreviations)	
Your Personal Post Office Address At The Above Institution	
Telephone Number (Include Your Country Code)	
Email Address	

CONDICIONES DE LOS PACIENTES

A wide range of medications and medical conditions. Unsurprisingly, the most common listed medications were anti-convulsants such as Keppra and Dilantin, as well as blood thinners such as Lovenox and heparin.

BONN University

Cinco sets de 100 segmentos de señales EEG de 23.6 segundos

Los conjuntos A y B consistían en segmentos de grabaciones de EEG realizadas en cinco voluntarios sanos

Los conjuntos C, D y E procedían de un archivo de EEG de diagnóstico prequirúrgico.

BONN University

SET A	Z.zip	with Z000.txt - Z100.txt	(564 kB)
SET B	O.zip	with O000.txt - O100.txt	(611 kB)
SET C	N.zip	with N000.txt - N100.txt	(560 kB)
SET D	F.zip	with F000.txt - F100.txt	(569kB)
SET E	S.zip	with S000.txt - S100.txt	(747kB)

```
-56
-50
-64
-91
-135
-140
-134
-114
-115
```

https://www.ukbonn.de/epileptologie/arbeitsgruppen/ag-lehnertz-neurophysik/downloads/

BERN Barcelona

Grabaciones intracraniales EEG de pacientes con epilepsia fármacorresistente

Se definió como señal EEG focal a aquellas que detectaban los primeros cambios de señal de EEG ictales

El resto de canales se clasificaron como no-focales

Se seleccionaron aleatoriamente 3750 pares de señales x e y del conjunto de todas las señales en canales focales y no-focales de EEG.

BERN Barcelona

Data_F_Ind_1_750.zip
Data_F_Ind_751_1500.zip
Data_F_Ind_1501_2250.zip
Data_F_Ind_2251_3000.zip
Data_F_Ind_3001_3750.zip
Data_N_Ind_1_750.zip
Data_N_Ind_751_1500.zip
Data_N_Ind_1501_2250.zip
Data_N_Ind_2251_3000.zip
Data_N_Ind_3001_3750.zip

Cada archivo Zip contiene 750 archivos de texto individuales, cada archivo de texto contiene un par de señales individuales.

```
-23.584467,   22.621477
-20.180197,   26.547081
-16.631811,   28.431639
-12.762078,   30.098673
-10.451992,   30.030939
 -9.788496,   27.864071
 -9.092120,   27.279987
```

CONDICIONES DE LOS PACIENTES

All five patients had longstanding pharmacoresistant temporal lobe epilepsy and were candidates for epilepsy surgery and underwent long-term intracranial EEG recordings.