Datasets y visualización

Importar con readtable y readmatrix

```
% readmatrix
area_mm=readmatrix("../paush/Digitalizacion de señales/S3/Utils4SP/Datasets/areaMM.txt"
```

```
area_mm = 1×181
  340.4277  324.3750  308.9114  293.6813  277.8073  261.0772  245.9019  232.8705 ···
```

```
% readtable
PSD_bands=readtable("Digitalizacion de señales/S3/Utils4SP/Datasets/2021.10.04_Intensid
```

```
PSD_bands = 630×13 table
                                                                                    ...
```

	Dist_cm_	PSD_B1	PSD_B2	PSD_B3	PSD_B4	PSD_B5	PSD_B6	PSD_B7
1	0.5000	0.5480	0.0129	0.0052	0.0046	0.0205	1.1388	0.0107
2	0.5000	0.5042	0.0017	0.0022	0.0024	0.0057	0.5872	0.0015
3	0.5000	0.4539	0.0061	0.0016	0.0049	0.0121	0.5663	0.0060
4	0.5000	0.3205	0.0055	0.0052	0.0017	0.0082	0.6285	0.0053
5	0.5000	0.3859	0.0032	0.0026	0.0024	0.0066	0.5744	0.0035
6	0.5000	0.8591	0.0051	0.0020	0.0019	0.0073	0.6579	0.0061
7	0.5000	0.5021	0.0044	0.0020	0.0018	0.0075	0.5880	0.0027
8	0.5000	0.3402	0.0063	0.0067	0.0062	0.0097	0.5597	0.0118
9	0.5000	0.3661	0.0046	0.0020	0.0049	0.0085	0.5586	0.0043
10	0.5000	0.5464	0.0037	0.0016	0.0024	0.0075	0.5924	0.0011
11	0.5000	0.8342	0.0094	0.0025	0.0071	0.0063	0.9233	0.0042
12	0.5000	0.3870	0.0050	0.0017	0.0033	0.0124	1.1173	0.0029
13	0.5000	0.4425	0.0021	0.0005	0.0013	0.0038	0.6084	0.0020
14	0.5000	0.4923	0.0034	0.0009	0.0022	0.0069	0.5943	0.0012
15	0.5000	0.4754	0.0075	0.0031	0.0016	0.0057	0.6152	0.0041
16	0.5000	0.8079	0.0093	0.0061	0.0068	0.0129	0.5341	0.0059
17	0.5000	0.5346	0.0051	0.0023	0.0059	0.0127	1.1668	0.0032
18	0.5000	0.5067	0.0043	0.0012	0.0030	0.0106	0.5533	0.0025
19	0.5000	0.8112	0.0069	0.0026	0.0027	0.0089	1.0308	0.0035
20	0.5000	0.3734	0.0105	0.0032	0.0030	0.0104	0.5804	0.0105
21	0.5000	0.8587	0.0058	0.0016	0.0038	0.0091	0.5660	0.0061
22	0.5000	0.4835	0.0057	0.0019	0.0041	0.0094	1.1545	0.0046
23	0.5000	0.8285	0.0040	0.0012	0.0015	0.0032	0.6117	0.0010

	Dist_cm_	PSD_B1	PSD_B2	PSD_B3	PSD_B4	PSD_B5	PSD_B6	PSD_B7
24	0.5000	0.3315	0.0088	0.0024	0.0045	0.0142	0.5920	0.0092
25	0.5000	0.3778	0.0022	0.0028	0.0028	0.0095	0.5773	0.0039
26	0.5000	0.8786	0.0069	0.0030	0.0015	0.0057	0.5947	0.0021
27	0.5000	0.3387	0.0133	0.0038	0.0030	0.0119	1.1238	0.0079
28	0.5000	0.3665	0.0025	0.0020	0.0027	0.0069	0.5948	0.0029
29	0.5000	0.4544	0.0034	0.0014	0.0023	0.0062	0.5773	0.0021
30	0.5000	0.4900	0.0041	0.0018	0.0017	0.0069	0.5792	0.0037
31	1	0.2387	0.0014	0.0009	0.0011	0.0017	0.2785	0.0009
32	1	0.2504	0.0021	0.0007	0.0008	0.0035	0.2713	0.0009
33	1	0.1724	0.0040	0.0022	0.0030	0.0066	0.2501	0.0055
34	1	0.1677	0.0011	0.0014	0.0016	0.0042	0.2514	0.0012
35	1	0.2057	0.0011	0.0016	0.0015	0.0040	0.2621	0.0008
36	1	0.2314	0.0013	0.0011	0.0012	0.0034	0.2647	0.0010
37	1	0.1701	0.0088	0.0019	0.0021	0.0092	0.5130	0.0034
38	1	0.1603	0.0028	0.0016	0.0033	0.0030	0.2530	0.0031
39	1	0.1963	0.0016	0.0011	0.0017	0.0030	0.2707	0.0018
40	1	0.2290	0.0011	0.0013	0.0009	0.0018	0.2797	0.0012
41	1	0.3656	0.0020	0.0012	0.0009	0.0034	0.2679	0.0009
42	1	0.3659	0.0026	0.0014	0.0022	0.0062	0.5110	0.0017
43	1	0.2240	0.0018	0.0008	0.0017	0.0035	0.3988	0.0024
44	1	0.2277	0.0014	0.0011	0.0015	0.0030	0.2608	0.0010
45	1	0.2343	0.0016	0.0009	0.0019	0.0019	0.2597	0.0024
46	1	0.1665	0.0036	0.0025	0.0018	0.0038	0.2443	0.0053
47	1	0.3936	0.0029	0.0020	0.0015	0.0039	0.2721	0.0029
48	1	0.2194	0.0043	0.0017	0.0022	0.0063	0.5222	0.0027
49	1	0.1574	0.0043	0.0031	0.0017	0.0042	0.2535	0.0020
50	1	0.3545	0.0027	0.0018	0.0030	0.0050	0.5417	0.0013
51	1	0.1749	0.0029	0.0015	0.0024	0.0042	0.2704	0.0015
52	1	0.4112	0.0031	0.0020	0.0011	0.0029	0.2712	0.0025
53	1	0.1711	0.0081	0.0028	0.0059	0.0072	0.5122	0.0035
54	1	0.1674	0.0013	0.0013	0.0015	0.0035	0.2569	0.0038
55	1	0.2030	0.0009	0.0012	0.0012	0.0033	0.2683	0.0012
56	1	0.2181	0.0012	0.0012	0.0011	0.0026	0.2769	0.0009

	Dist_cm_	PSD_B1	PSD_B2	PSD_B3	PSD_B4	PSD_B5	PSD_B6	PSD_B7
57	1	0.3756	0.0020	0.0007	0.0017	0.0024	0.2707	0.0019
58	1	0.3148	0.0051	0.0017	0.0022	0.0068	0.5535	0.0038
59	1	0.2341	0.0018	0.0021	0.0050	0.0047	0.3379	0.0020
60	1	0.2213	0.0016	0.0013	0.0017	0.0027	0.2913	0.0012
61	2	0.0810	0.0006	0.0011	0.0013	0.0026	0.1160	0.0007
62	2	0.0966	0.0007	0.0007	0.0011	0.0017	0.1379	0.0007
63	2	0.1720	0.0018	0.0015	0.0013	0.0016	0.1063	0.0017
64	2	0.0728	0.0024	0.0012	0.0021	0.0041	0.2147	0.0026
65	2	0.0689	0.0011	0.0012	0.0007	0.0020	0.1132	0.0015
66	2	0.0801	0.0011	0.0008	0.0009	0.0009	0.1078	0.0006
67	2	0.0877	0.0016	0.0007	0.0008	0.0014	0.1149	0.0009
68	2	0.1692	0.0014	0.0007	0.0011	0.0023	0.1131	0.0012
69	2	0.1421	0.0012	0.0011	0.0011	0.0055	0.2270	0.0017
70	2	0.0902	0.0016	0.0009	0.0017	0.0019	0.1504	0.0011
71	2	0.1028	0.0010	0.0009	0.0004	0.0010	0.1181	0.0005
72	2	0.0760	0.0024	0.0012	0.0016	0.0037	0.2117	0.0019
73	2	0.1751	0.0018	0.0009	0.0015	0.0032	0.1133	0.0018
74	2	0.1134	0.0028	0.0007	0.0026	0.0038	0.2193	0.0015
75	2	0.0970	0.0008	0.0008	0.0007	0.0021	0.1172	0.0005
76	2	0.1652	0.0019	0.0015	0.0006	0.0017	0.1403	0.0017
77	2	0.0942	0.0016	0.0009	0.0017	0.0018	0.1218	0.0015
78	2	0.1653	0.0018	0.0007	0.0012	0.0026	0.1150	0.0018
79	2	0.0749	0.0010	0.0006	0.0013	0.0019	0.1139	0.0008
80	2	0.0919	0.0008	0.0013	0.0010	0.0022	0.1018	0.0014
81	2	0.0983	0.0016	0.0012	0.0017	0.0019	0.1269	0.0010
82	2	0.0862	0.0011	0.0008	0.0005	0.0016	0.1159	0.0006
83	2	0.0644	0.0019	0.0009	0.0008	0.0021	0.1134	0.0021
84	2	0.0897	0.0012	0.0014	0.0014	0.0036	0.1824	0.0019
85	2	0.0995	0.0012	0.0010	0.0007	0.0022	0.1161	0.0005
86	2	0.1048	0.0010	0.0010	0.0009	0.0023	0.1094	0.0009
87	2	0.0674	0.0029	0.0015	0.0012	0.0048	0.1114	0.0021
88	2	0.1447	0.0015	0.0013	0.0015	0.0034	0.2079	0.0020
89	2	0.0980	0.0012	0.0011	0.0013	0.0027	0.1431	0.0019

	Dist_cm_	PSD_B1	PSD_B2	PSD_B3	PSD_B4	PSD_B5	PSD_B6	PSD_B7
90	2	0.1030	0.0007	0.0010	0.0007	0.0014	0.1137	0.0006
91	3	0.0625	0.0009	0.0007	0.0014	0.0022	0.0681	0.0012
92	3	0.0449	0.0017	0.0010	0.0015	0.0020	0.0666	0.0012
93	3	0.0376	0.0010	0.0014	0.0008	0.0016	0.0637	0.0020
94	3	0.0472	0.0008	0.0013	0.0011	0.0010	0.0639	0.0008
95	3	0.0927	0.0019	0.0008	0.0011	0.0011	0.0772	0.0016
96	3	0.0548	0.0006	0.0008	0.0009	0.0019	0.0633	0.0010
97	3	0.0355	0.0020	0.0012	0.0007	0.0015	0.0638	0.0018
98	3	0.0429	0.0013	0.0012	0.0011	0.0021	0.0606	0.0013
99	3	0.0639	0.0011	0.0008	0.0007	0.0011	0.0666	0.0006
100	3	0.0547	0.0007	0.0009	0.0007	0.0010	0.0666	0.0009

⋮

Función custom de Import File

```
%Pasa sonda Cassini
%Cassini=importfile_cassini("Digitalizacion de señales/S3/Utils4SP/Datasets/05358_mrdc
```

Importar audio

```
[y,fs]=audioread("../../Digitalizacion de señales/S3/Utils4SP/Datasets/Owl.wav");
% Escuchar
sound(y,fs)
```

Datastore

```
% Le indicamos que una carpeta es un datastore
ds=datastore("../../Digitalizacion de señales/S3/Utils4SP/Datasets/AtmosferaLogger_V2/"
```

```
ds =
  TabularTextDatastore with properties:

                      Files: {
                             ' .../S3/Utils4SP/Datasets/AtmosferaLogger_V2/210722.TXT';
                             ' .../S3/Utils4SP/Datasets/AtmosferaLogger_V2/210723.TXT';
                             ' .../S3/Utils4SP/Datasets/AtmosferaLogger_V2/210724.TXT'
                              ... and 3 more
                             }
                    Folders: {
                             ' .../Digitalizacion de señales/S3/Utils4SP/Datasets/AtmosferaLogger_V2'
                             }
               FileEncoding: 'UTF-8'
    AlternateFileSystemRoots: {}
          VariableNamingRule: 'modify'
```

```
        ReadVariableNames: false
            VariableNames: {'Var1', 'Var2', 'Var3' ... and 3 more}
           DatetimeLocale: en_US

  Text Format Properties:
           NumHeaderLines: 0
                Delimiter: {' ', '\t'}
             RowDelimiter: '\r\n'
           TreatAsMissing: ''
             MissingValue: NaN

  Advanced Text Format Properties:
          TextscanFormats: {'%f', '%T', '%f' ... and 3 more}
                 TextType: 'char'
       ExponentCharacters: 'eEdD'
             CommentStyle: ''
               Whitespace: '\b'
    MultipleDelimitersAsOne: true

  Properties that control the table returned by preview, read, readall:
      SelectedVariableNames: {'Var1', 'Var2', 'Var3' ... and 3 more}
            SelectedFormats: {'%f', '%T', '%f' ... and 3 more}
                   ReadSize: 20000 rows
                 OutputType: 'table'
                   RowTimes: []

  Write-specific Properties:
     SupportedOutputFormats: ["txt"    "csv"    "xlsx"    "xls"    "parquet"    "parq"]
        DefaultOutputFormat: "txt"
```

```
ds.VariableNames=["Fecha" "Hora" "Pres_kpa" "Temp_C" "Hum_perc" "Bat_V"]
```

```
ds =
  TabularTextDatastore with properties:

                      Files: {
                             ' .../S3/Utils4SP/Datasets/AtmosferaLogger_V2/210722.TXT';
                             ' .../S3/Utils4SP/Datasets/AtmosferaLogger_V2/210723.TXT';
                             ' .../S3/Utils4SP/Datasets/AtmosferaLogger_V2/210724.TXT'
                              ... and 3 more
                             }
                    Folders: {
                             ' .../Digitalizacion de señales/S3/Utils4SP/Datasets/AtmosferaLogger_V2'
                             }
              FileEncoding: 'UTF-8'
   AlternateFileSystemRoots: {}
         VariableNamingRule: 'modify'
          ReadVariableNames: false
              VariableNames: {'Fecha', 'Hora', 'Pres_kpa' ... and 3 more}
             DatetimeLocale: en_US

  Text Format Properties:
             NumHeaderLines: 0
                  Delimiter: {' ', '\t'}
               RowDelimiter: '\r\n'
             TreatAsMissing: ''
               MissingValue: NaN

  Advanced Text Format Properties:
            TextscanFormats: {'%f', '%T', '%f' ... and 3 more}
                   TextType: 'char'
         ExponentCharacters: 'eEdD'
               CommentStyle: ''
                 Whitespace: '\b'
```

```
    MultipleDelimitersAsOne: true

  Properties that control the table returned by preview, read, readall:
      SelectedVariableNames: {'Fecha', 'Hora', 'Pres_kpa' ... and 3 more}
            SelectedFormats: {'%f', '%T', '%f' ... and 3 more}
                   ReadSize: 20000 rows
                 OutputType: 'table'
                   RowTimes: []

  Write-specific Properties:
     SupportedOutputFormats: ["txt"    "csv"    "xlsx"    "xls"    "parquet"    "parq"]
        DefaultOutputFormat: "txt"
```

```
ds.TextscanFormats=["%s" "%s" "%f" "%f" "%f" "%f"];
%leer todas las entradas
atmosfera=readall(ds);

%Parche por si la tabla ya se importo
%atmosfera.Properties.VariableNames=["Fecha" "Hora" "Pres_kpa" "Temp_C" "Hum_perc" "Bat
```

Reordenando

```
%Sólo si importa fecha y hora en dos columnas
atmosfera.DateTime=string(atmosfera.Fecha)+" "+string(atmosfera.Hora);
%Pasar de texto a fecha-hora
atmosfera.DateTime=datetime(atmosfera.DateTime,'Format','yyyyMMdd HH:mm:ss');
```

Ploteo