

# GTable1D

De Wiki

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[GTable1D](#)

**GENIUS** allows to display (and read/write !) one dimension tables (abscissa et ordinate). The idea is to be able to manage one or several tabulated functions  $y_i = f(x_i)$  as, for example  $C_x$  et  $C_z$  depending on the Angle of Attack ...

To do it, we must use [GEntryRealVector](#) class (or [GEntryIntVector](#), [GEntryDateVector](#)) to store data by columns.

```
GUnit[] unitAng = {new GMetricUnit("deg"), new GMetricUnit("rad")};

double[] incVal = {Math.toRadians(10.), Math.toRadians(15.),
Math.toRadians(20.),
Math.toRadians(25.), Math.toRadians(30.),
Math.toRadians(35.),
Math.toRadians(40.)};
double[] cxVal = {0.100, 0.150, 0.200, 0.250, 0.350, 0.450, 0.600};
double[] czVal = {0.250, 0.300, 0.350, 0.400, 0.500, 0.550, 0.600};

incTabIhm = new GEntryRealVector("Angle Of Attack", incVal, unitAng);
incTabIhm.setNameInConfigFile("AOA");
CxTabIhm = new GEntryRealVector("Cx", cxVal);
CzTabIhm = new GEntryRealVector("Cz", czVal);
CzTabIhm.addGInterval(errInterval);
```

Then we will use [GTable1D](#) class to assembly them:

```
aeroTabIhm=new GTable1D("Cx/Cz = f(Mach)",
TableOrientation.VERTICAL,incTabIhm, CxTabIhm, CzTabIhm);
aeroTabIhm.setConstraint(new GConstraint(GConstraint.newline()));
```

Angle Of Attack <a href="#">deg</a>	Cx	Cz	<a href="#">+/-</a>
10.0	0.1	0.25	<a href="#">+/-</a>
15.0	0.15	0.3	<a href="#">+/-</a>
20.0	0.2	0.35	<a href="#">+/-</a>
25.0	0.25	0.4	<a href="#">+/-</a>
30.0	0.35	0.5	<a href="#">+/-</a>
35.0	0.45	0.55	<a href="#">+/-</a>
40.0	0.6	0.6	<a href="#">+/-</a>

At last, if we want to get the content of this table, we will have to use the [getGVector\(\)](#) method then [getValue\(\)](#) or [getValueArray\(\)](#) methods. The following example gives us a method to recover a double table:

```
public double[] getData ( int rank ) {  
    double[] tmp = new double[aeroTabIhm.getGVector(rank).size()];  
    for (int i = 0; i < tmp.length; i++) {  
        tmp[i] = (Double)aeroTabIhm.getGVector(rank).getValue(i);  
    }  
    return tmp;  
}
```

Note that, it is mandatory to cast the data as, since the V1.2 version, it is possible to get objects as [GEntryDateVector](#) in [GTable1D](#), so the [getGVector\(\)](#) will return a table of Objects rather than a table of Number as previously.

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