LICEO LABRIOLA NAPOLI

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Studying the Earthquakes.

Group:

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With the help of:

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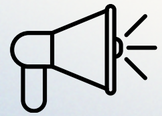
Clil activity.



C	CONTENT
L	LANGUAGE
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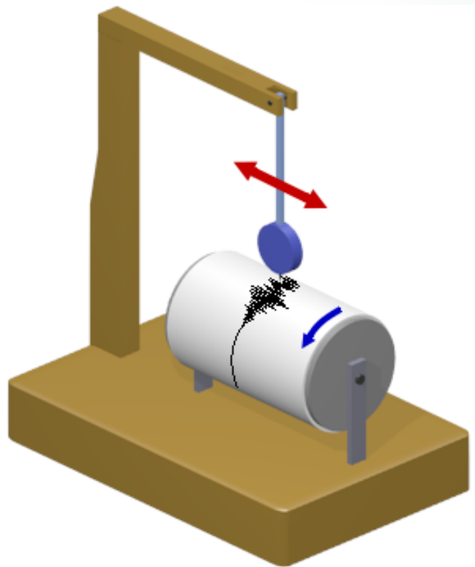
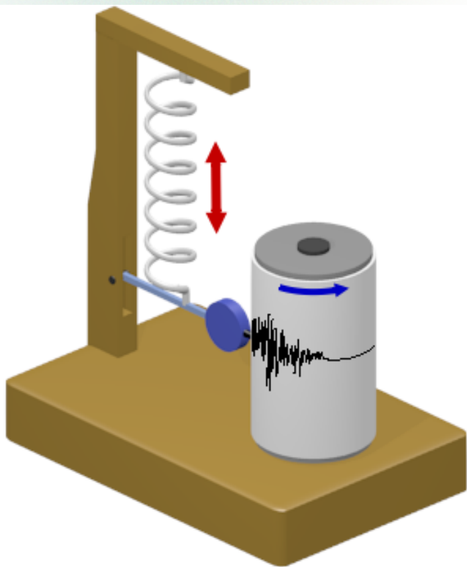
What are a seismogram and a sismometer ?

A seismogram reveals the passage of earthquake waves and it can also capture the passage of earthquakes' waves that occur in other nations or continents. A seismogram's time is based on Greenwich Mean Time.

We can observe a seismogram thanks to the use of a sismograph.

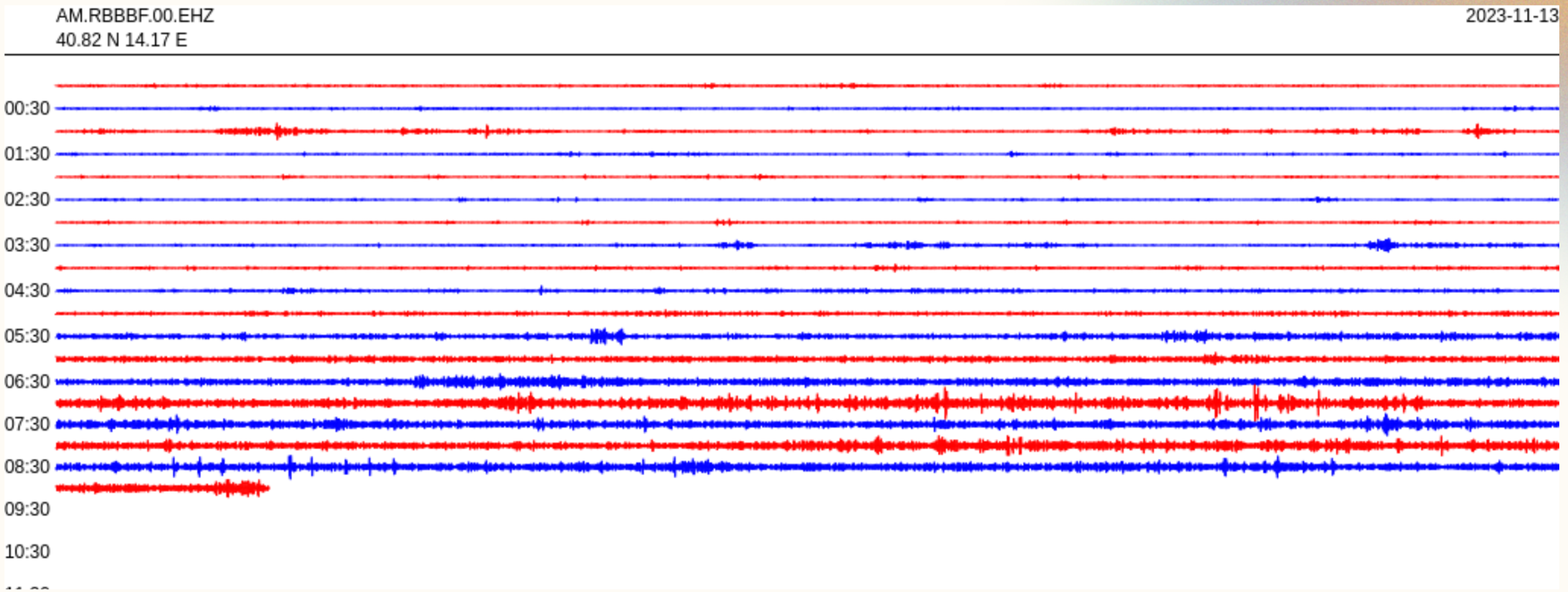
Whereas, a sismometer is endowed with a digital clock that synchronizes on the internet.





Waves Phenomena.

Our school’s seismograph



Earthquake’s characteristics

Magnitude

Magnitude is the most common measure of an earthquake's size. It is a measure of the size of the earthquake source and is the same number no matter where you are or what the shaking feels like.

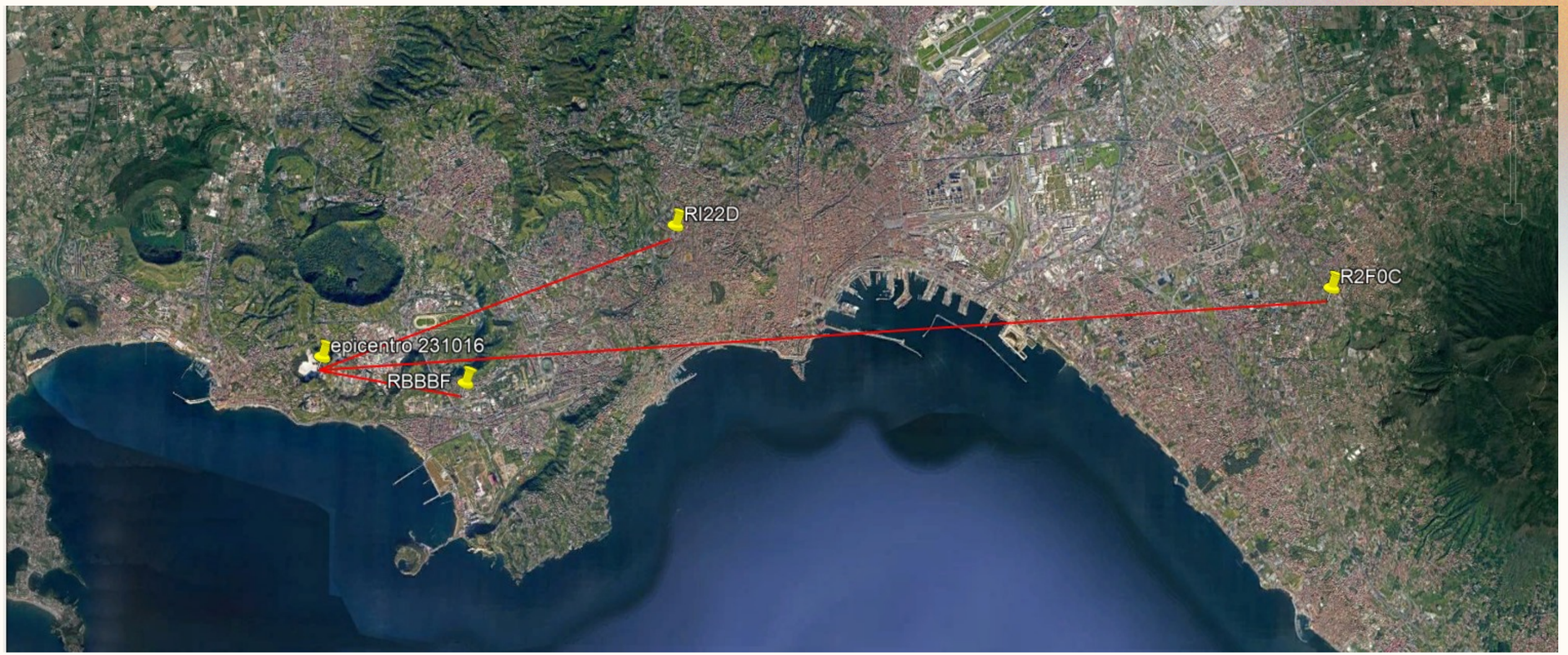
Velocity

It depends on the material (density), and the more the earthquake travels the more it gets fast. It also depends on the rocks that the waves encounter, because the Earth is isotropic.

Focus, Hypocenter, Epicentre

The focus is point inside the earth where the earthquake started.
The hypocentre is a point at a depth where the rupture is triggered.
The epicentre is the vertical projection of the hypocenter on the surface.

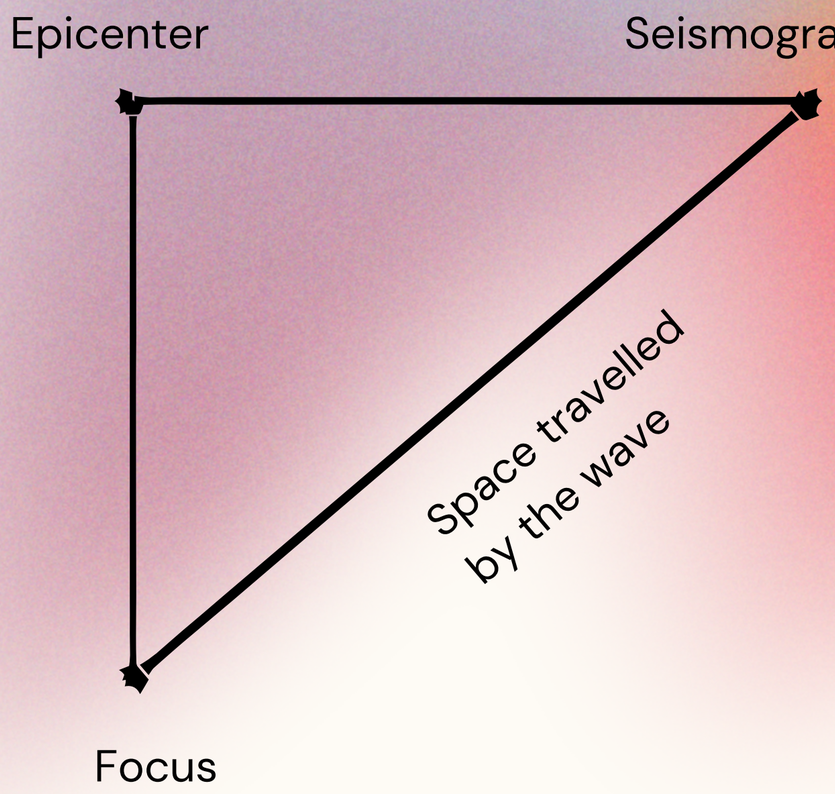
The earthquake we studied with Google Earth



How we studied the waves

1) We have to choose some mark points, including the epicenter and the date of the earthquake’s occurrence;

2) We use a ruler to draw a line between the seismograph and the epicenter, which represents their distance.

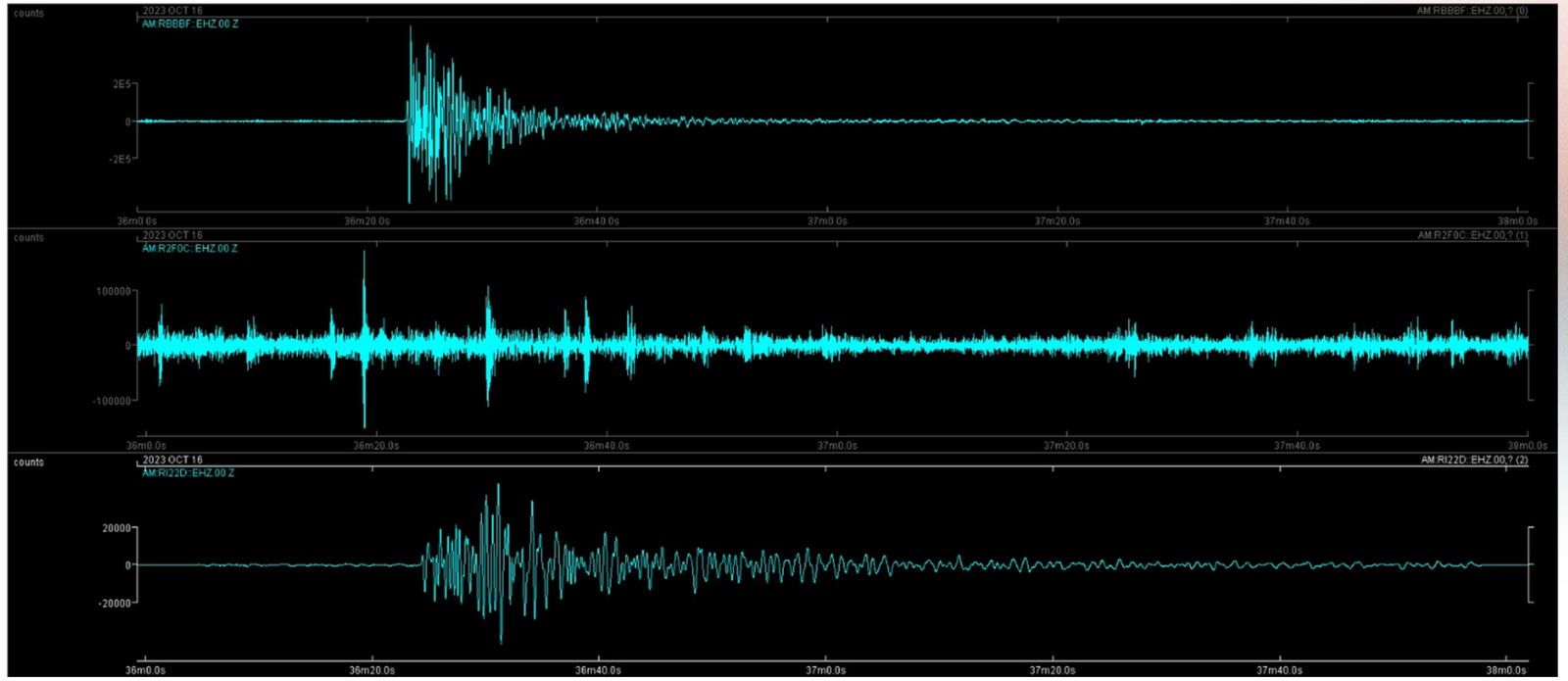


d= √4 + 7,29= 3,36

T= 10,36,21 s

v= d/t= 3,36/ 2,461= 1,36 km/s

Comparison of Seismographs



On SeisGram2k there is the INGU function: it gives the geographic coordinates of the epicenter and the source's depth.

From the datas we can observe the phenomenon of dispersive waves: the furthest the sesimograph is from the epicentre, the more the shock lasts. Indeed, in San Sebastiano it lasted around seven seconds.

Labriola

D: 3,36km
T:2,46s
Time: 10,36,23,461
V: 1,36 km/s

Alberti

D: 7km
T:3,006s
Time: 10,36,24
V: 2,42 km/s

San Sebastiano

D: 19,3 km
T: 7,5s
Time: 10,36,28,597
V: 2,7 km/s