

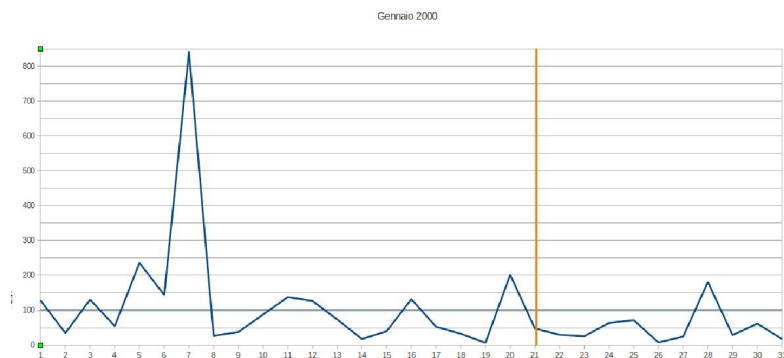
New earthquake's properties from a study of Silvio Ragone.

Somebody says that earthquakes of different zones are independent but this is not true because there exists a rhythm of release of seismic energy that is equal in different places of the terrestrial surface; there have been months in which the strongest earthquakes of Italy happened in the same day of the strongest one of New Zealand and North California with a frequency much greater than the probability for casual events. The shift of the continents is considered the main reason of the earthquakes but they exist also far from faults and also on the Moon and on Mars where the surface is not divided in continents and active vulcanism doesn't exist.

Somebody says that earthquakes are not predictable and this is not true cause in Italy Raffaele Bendandi had been able to predict many of them and because I have demonstrated that earthquakes respect some rules and mechanisms that need to be justified.

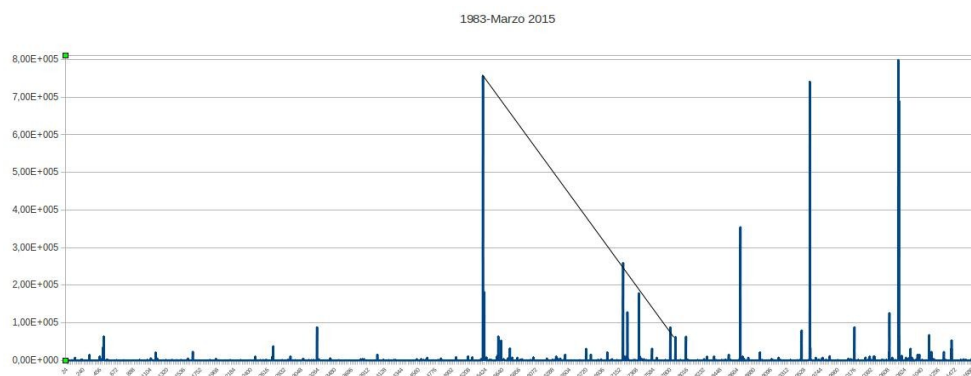
The distribution of seismic energy contains monthly meanly 10 peaks: this happens both in the case of single region and in the case of the entire terrestrial surface. This is a dynamic with a peak every 3 days, like if the seismic activity is made of a continuous physiological pulsation that sometimes accelerates and sometimes slow down in a balanced way as regard the main value; the number of the peaks could depend from the number of the planets that affect the phenomenon; the value '10' greater than the number of the known planet is adequate to the last results about the existence of two other planets beyond Neptune except Plutone that has been degraded. From the study of the periodicities related to the earthquakes could be deduced the values of the periodicities of the unknown planets and so their distances from the Sun.

Example of the Italian distribution of energy of January 2000



The vertical line represents the day of the full moon, the distribution of the number of the monthly peaks is a quite sharp gaussian with the 74% of the cases that is distributed between 9 and 11.

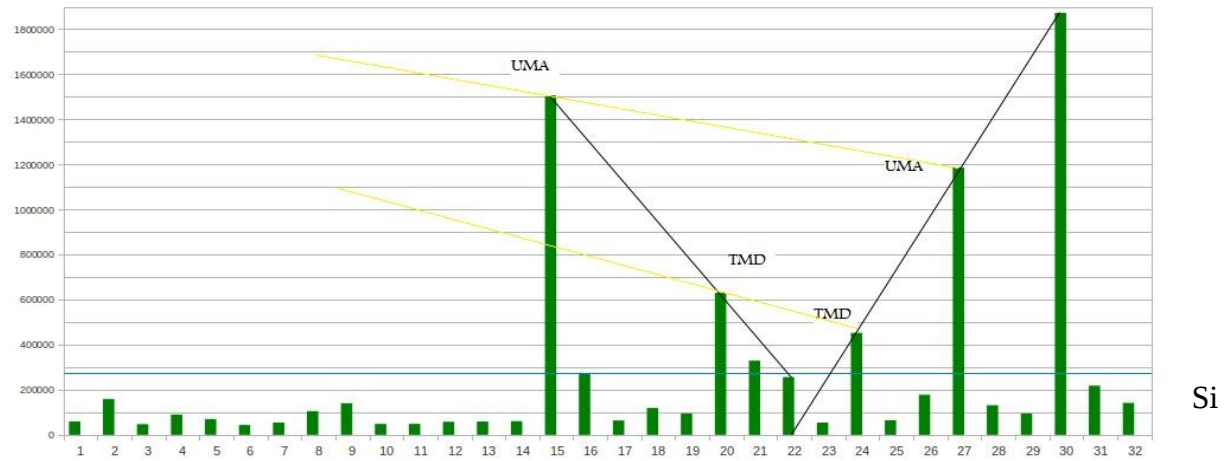
The pulsation is amplified to many intensity (strongest earthquakes) in moment that, seen over a restricted interval, seems not regular, instead widening the space of observation could be noted some regularities (periodicities, symmetries, tendencies and other characteristics). All these things brings to think that earthquakes are not casual but generated by some mechanisms. In the develop of the analysis I have visualized the distributions over greater interval: the values of energy have been integrated also in interval of a single month or year. Example of a daily distribution in the period 1983-2014.



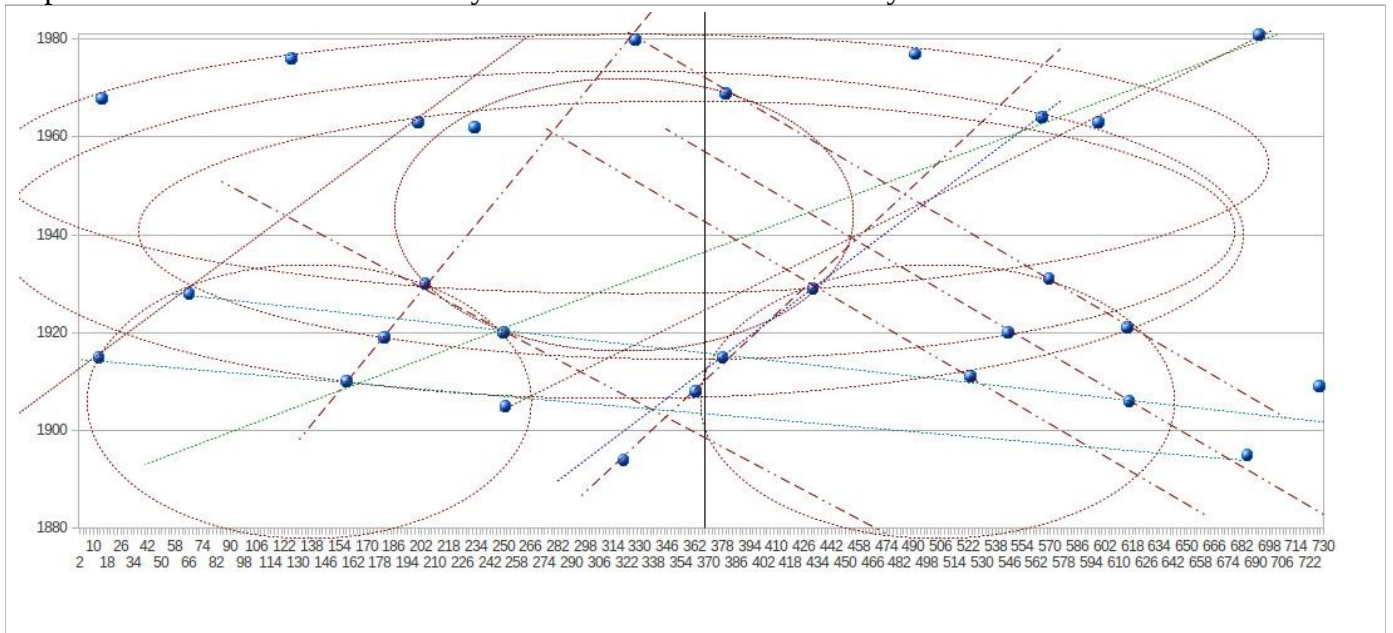
We can see some alignments of maximum of energy. Extending suitable alignments in the future we could make hypothesis to be controlled, about the magnitude of future events.

Integrating the values of the energy over annual intervals we have obtained this other distribution

Integrali annuali dal 1983



We can see two alignmentst of the maximum and other carachteristics among which the most evident is an arrangement nearly symmetric in the time (1997-2012) of peaks of the same zone by reflection as regard the minimum of 2005: Uma means the zone around the frontiers of Umbria, Marche and Abruzzo (L'Aquila and Colfiorito) instead TMD means the zones of South Tirreno (North of Sicily) and of the Daunia. The intensities of the peaks of the couples in consideration are similar for every zone and decrease in the same way (of about the 75%) from the first peak to the second of both the couple. The peak of 2012 (Emilia Romagna) is the highest and has not a simmetrical one but his alignment with the other two peaks is almost perfect; the growing alignment in the period 2006-2012 make me think that the cause of the event is natural, not artificial (due to human activities in the subsoli) and equal for all. In another type of analisys we consider the italian events between 1880 and 1985 with magnitudo greater than 5.4; these events placed in a temporal map (every year along a horizontal line) are inclined to form some lines, sometime parallel and equidistant or to form some ellipsis. This map (Ragoniana) is a double map so we can consider the continuity between December and January.



I've analyzed a first alignment composed by 4 events: 3 of this 4 events are happened in the province of Avellino and the other is of the province of Firenze.

year	day	month	place	Prov
1910	7/6	5.9	Calitri	AV
1919	29/6	6.2	Vicchio	FI
1930	23/7	6.7	Bisaccia	AV
1980	23/11	6.9	Teora	AV

This fact help us to demonstrate that earthquakes don't happen casually and i think that eventual earthquakes in the province of Avellino could happen most probably in a day along the same line.

Considering the most important italian events (M>4), for example of the last 40 year, their representative points in the temporal map form an apparently confused scheme but we can detect some lines of which

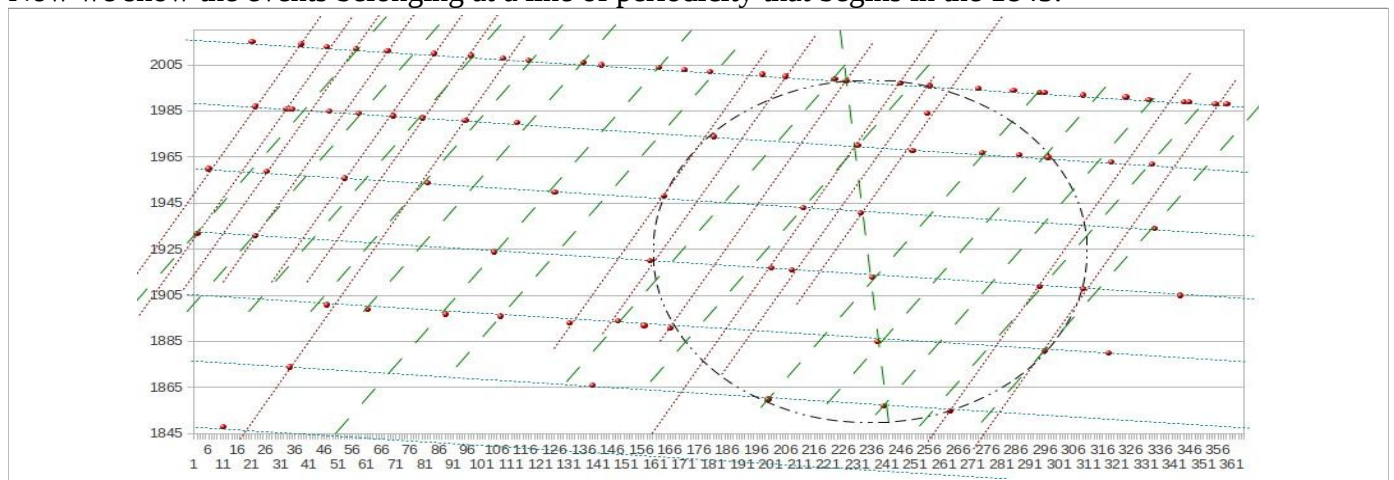
they seems to be part.

A first line is composed by 10 points, non omogeneally distributed in the many regions of Italy: 5 of them are localized in the province of Foggia and Potenza, and 2 have been happened both in Brefaro (Potenza). The first and the nineth events are happened at a distance of 28 years about, value that could be considered the periodicity of this line. The distances between these 10 events are multiple of 11,5 months; 8 of them are placed at the cross with other lines of periodicity. Analizing this first line i have obtained informations about typical places and times and we hope that with the help of other results we could be able to know which could be the most probably characteristics of the events in the future.

Going further in the past i've found other 61 point of the same line not omogeneously distributed in 40 province: 6 events (8,2%) in province di Foggia (6,5 times the mean value) and 5 events (6,8%) in province of Potenza (5,5 times the mean value): this fact is an indications that these zones are preferable for this line of periodicity, so in the future we could have the same probabilities for the same zones along this line.

The province of Perugia, that is the most dangerous in the past, is not proportionally represented in this line; so exists an effect of exclusion of this province. Some possible dates for the next 6 events of this line are 7/01/2016, 23/12/2016,12/12/2017, 28/11/2018, 20/11/2019, 5/11/2020; this dates could have an error of a day and the events could have a magnitudo between 3.2 and 5.2, like for the past events.

Now we show the events belonging at a line of periodicity that begins in the 1845.



Like for other lines we can see that the events belong to a network of different groups of parallel lines; among the other there exist 12 points belonging very clearly to an allipse and 6 point standing along a line that seems to be an axis of the ellipse. Some points of this line, belonging to the italian catalogue, are happened out of Italy but near to the italian frontiers.

"","1881","10","23","5,17","GORJIANCI"	"LE","1974","06","29","4,63","ALTO JONIO"
"","1965","10","24","4,97","SIERRE"	"RC","1908","11","05","4,83","FERRUZZANO"
"AR","1948","06","13","5,17","ANGHIARI"	"TV","1860","07","19","5,17","FARRA DI SOLIGO"
"CS","1855","09","20","5,17","COSENZA"	"VR","1891","06","15","4,83","CASTELNUOVO DEL GARDA"
"FC","1920","06","08","4,60","TREDOZIO"	

In the list is not present the event of 1996 because it has a magnitude lower than the threshold of this catalogue. These events don't seem to have something in common, but calculating the differences between their year we obtain particular values reported in the next table.

	1855	1860	1881	1891	1908	1948	1965	1974	
1860	5								The values obtained are divided in groups of couples of repeated values (17, 26, 31, 48, 57, 88, 93, 105) sometimes in a symmetrical way or di couples of values different by 1 (9, 10, 21, 22, 26, 27, 66, 67, 83, 84, 114, 115).
1881	26	21							
1891	36	31	10						
1908	53	48	27	17					
1948	93	88	67	57	40				
1965	110	105	84	74	57	17			
1974	119	114	93	83	66	26	9		
1996	141	136	115	105	88	48	31	22	

Resuming we have events that belong to the same line of periodicity, someone of them belong also to the

same ellipse and some differences between their years are equal, detecting other values of periodicity. All the particularities reported are only example of different type of characteristics because i've found many line of periodicity, many different ellipsis of gathering.

Is known the doubt about the possibility that the moon could affect the seismic events; some studies demonstrated that this is surely true in the case of events happened near the coast where oceanic tides provoke great stress with their weight but this is only a particular case.

To face the problem i have considered, for every month, the distance (named DLP) between the day of the full moon (LP) and the day of maximum peak of the distribution of energy: this distance is taken positive if LP defers the peak or negative if the LP anticipate the peak; so the values of this quantity varies between 15 and -15 inside the lunar cycle; the values so obtained are inserted in a proper table.

Composing these tables for many nations are been observed some characteristic, among which the most evident is the repetition of the same value passing from a cell to another.

Example of North California

	G	F	M	A	M	G	L	A	S	O	N	D	G
1997				-12		-10			-11	12	12	12	
1996										-11		12	
1995													
1994													
1993	-8		-8										
1992		-1	10	-8			13						
1991	-1	-5	6	8	-6	13	-6	8	6	-5	10		
1990	-5										-1	13	-1
1989		12											
1988		12	12	12									

Neglecting some values we can see the configuration with the shape of an L around the 1997, between october and december, composed by the only value 12 that is repeated 4 times,; this is just happened 116 month before (1988), rotated of 180°; they together form 2 opposite edges of a frame. So i have looked for the center of this rotation; there exists a repetition, along the diagonal, of the value 13; from the inferior value 13 start two symmetrical successions composed by the values -6, 8, 6, -5, -1, that appear toward right and left untill to reach a third value 13. Also the symmetrical successions are obtained with a rotation of 180° around a second center (along the diagonal) of value equal to that (13) of the first center.

The numbers -6, 8, 6, -5, -1 are not very casual because the difference between 6 and -6 is 12, the difference between 8 and -5 is 13 and -1 is the difference between 12 and 13.

The limits of the successions (13) are placed at a distance of 6 months and that makes me think that could be convenient, to do some calculation, to put the beginning of the year in one of the two months characterized but the values 13 (december or june).

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