Part 6: The collapsing of Multiple Nucleus Quasars

Primo Galletti Aldo Aluigi

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After the two collapses of high intensity occurred in August 1999, we could notice a reduced number of gravitational waves investing the Earth and our Solar System for about one year.

As we will see, such reduction is only apparent as namely the gravitational activity never got reduced but it was involving *Multiple Nucleus Quasars* (MNQ) which, at the moment of the collapsing, were very far from us.

The reduction was only apparent and due to the *redshift* effect [1].

Beginning from July 2001 a rather relevant gravitational activity has restarted. Only now, we can state that said waves belong to a single event still going on and concerning the general collapsing of an MNQ that happened at very long distance from us.

The analysis of this event, which was not significantly disturbed by the other collapses happened nearer us, is very interesting and helps us to better understand these extraordinary phenomena continuously happening all over the Universe.

1 Recent collapses of MNQs

Graph 2002_4 shows the recordings starting from 1st July 2001 to 30th September 2002. As it is possible to notice from the graph, in the first half of July 2001 there was a voltage rise of about 0.25 V in few days (see circle 1). During the month of August, other variations of the same intensity and time, were recorded and, here, it is possible to distinguish very well a "fork" (see circle 2) which secondary peak, that arrived after about 12 days is partly overlapped by another peak of remarkable intensity (see circle 3) that reached its highest value on the 1st of September (see **Graph 2001_5**).

The origin of this latter peak, which does not seem to belong to any "fork", is still unknown to us. At present, we think that this was very likely due to the crash of two nuclei of the same MNQ joining together.

[1] As we know quite well, the redshift, further than reducing the wave intensity, *causes us to perceive phenomena in slow-motion.*

During the second half of September 2001 and the beginning of October it can be noticed that a nucleus "entry", which fact was caused by the gravitational waves produced by the previous collapses, and during the month of October the collapsing of another nucleus is recorded as well (see circle 5) which secondary peak, was very likely attenuated by the negative wave produced by a further nucleus coming into the MNQ.

The following three months, show a continuous reduction of the signal with a variation of about 0.75 V. In January 2002 the "entry" of another nucleus is recorded (see circle 6) and same was followed by another two collapses, partly overlapping each-other, during the months of February and March (see circles 7 and 8). *These events, too, lasted about 12 days* (see **Graph 2002_3**).

The uprising of the signal restarted in April 2002 and for about three months it showed the same continuous but slower trend. At the end of June 2002 a new rise of voltage, very similar to what seen in the first days of July of the previous year is recorded (see circle 9).

In the (three) following months, we can remark a series of collapses, most of which overlapping each-other, and proof of it is the rather high voltage level (3.75 V) reached after a short time (see circles 10 and 11). Namely during the second half of September 2002, a well shaped "fork" is recorded, which secondary peak is gradually extinguished within the middle of October, undisturbed by the arrival of other waves. *The distance between the peaks of this last "fork" still results of about 12 days, as well as with those recorded in August 2001.*

Then, during the last year and a half we have seen a single event: the general collapse of a MNQ! The MNQ in question was formed by more than ten nuclei. If we go back to what already said [2], we can easily calculate redshift z and, therefore, the distance this MNQ had from us at the moment of collapsing. If we take as reference the "forks" of 1994, we get:

$$z = w_{ratio}\ (w_0 - 1) \approx \frac{12}{4}\ (2.5 - 1) = 6.5$$

Therefore, the distance of the MNQ from us at the moment of collapsing had to be as follows :

$$r_0 = R_U\ \frac{z}{z+1} \approx 20\ \frac{6.5}{6.5+1} = 17.3\ billion\ of\ light-years$$

The time the gravitational waves needed to reach us, was of:

$$\Delta t = t_H\ \ln(z+1) \approx 20\ \ln(6.5+1) = 40.3\ billion\ of\ years$$

Because of the Universe expansion, the point where, 40.3 billion years ago, the collapse happened, is now at a distance from us of:

$$r = r_0\ (z+1) \approx 17.3\ (6.5+1) = 130\ billion\ of\ light-years$$

[2]See **Part 2:** *A Detector for Gravitational Waves.*

How did this general collapse develop? The nuclei (probably 2 or 3) collapsing first, in July-August 2001, started the whole event. Their location was very likely *in the border of the MNQ. The gravitational waves produced by these collapses propagated inside the MNQ and reached its center (where a largest number of nuclei can be found) about one year later*, starting the chain of collapses and generating the "mountain" observed during the months of July, August and September 2002.

The whole event lasted more than 15 months. If we divide said period by the widening w of these waves ($w = z + 1 = 7.5$), *representing also the slow-motion factor*, we obtain that the overall dimensions of this MNQ were $2 \div 3$ months-light.

Maybe the event has not yet finished. These latest waves produced, in propagating towards the outside of the MNQ, might cause further collapses as well as the "re-emerging" of some of the already collapsed nuclei.

For a period of little less than two years, after the two big collapses of August 1999, no relevant voltage variations were recorded (but the small peak of August/September 2000 as shown in details in **Graph 2000_5**).

However, if we show the whole period in one graph only (see **Graph 2001_6**) some "forks" can still be distinguished (see circles 1, 2, 3, 4 and 5) showing a distance between the peaks of about twenty days!

If we use the same formulas previously used, we obtain:

$$z = w_{ratio}\, w_0 - 1 \approx \frac{20}{4}\, 2.5 - 1 = 11.5$$

$$r_0 = R_U\, \frac{z}{z+1} \approx 20\, \frac{11.5}{11.5+1} = 18.4\ billion\ of\ light-years$$

$$\Delta t = t_H\, \ln(z+1) \approx 20\, \ln(11.5+1) = 50.5\ billion\ of\ years$$

$$r = r_0\, (z+1) \approx 17.3\, (6.5+1) = 230\ billion\ of\ light-years$$

It was, then, an MNQ, which at the moment of collapsing was placed very close to the border of the visible Universe! And it was possible to distinguish it thanks to the fact that, during the whole period, there were no nuclei collapsing near us, which fact would make this phenomenon very difficult to distinguish.

The whole event lasted more than two years. If we divide said time by the widening w ($w = z + 1 \approx 12.5$) it comes out that the dimensions of this MNQ, still result of $2 \div 3$ month-light!

The distance of $2 \div 3$ month-light should, therefore, correspond to the peculiar dimensions (radius) of these extraordinary celestial bodies which seem to rule the operating of the Universe [3]!

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[3]It has to be kept in mind the meaning it is necessary to give, here, to *month-light* because of *the speed of light is variable*!

As already pointed out, (see **Part 5:** *A Detector for Gravitational Waves*), owing to the intensive gravitational field produced by these celestial objects, the speed of light inside them is very low (e.g. on the surface of the nuclei while they are collapsing is of a *few meters per second*). And, as the real dimensions of bodies are directly proportional to the speed of the "local" light, *the real dimensions of these celestial objects, result as extremely reduced*!

2 Phenomena observed on the Earth

We already mentioned the effects produced on the Earth and on the Sun by the two collapses of high intensity of August 1999. As we stated, *these waves interact with the terrestrial magnetic field and causing the nucleus restraining and, consequently an Eastward slipping of the Earth mantle is produced.* If the intensity of the wave is quite high, the slipping immediately generates earthquakes on the whole equator band. If, on the contrary, the wave intensity is smaller, inside tensions with more or less intensity are generated, that heap up may cause earthquakes later on.

Furthermore, when the heat generated by friction between nucleus and mantle reaches the surface, after a few months it causes an intensification of the activity of the always active volcanoes.

The series of collapses generated starting from June 2002 left evident marks on the Earth! Since the end of June 2002, as recorded, *there has been a general intensification of the telluric activity* (namely in Italy the earthquake in Palermo - Sicily, took place) which continued during the following months, and was particularly strong in August and during the second half of September 2002.

The earthquakes that took place later on (for example in Molise - Italy) was due to the release of internal tensions of the Earth crust that had heaped up during the previous months, especially those generated during the "fork" of September 2002.

The intensification of the volcanic activity as well as that previously recorded in August 1999, took place with a *delay of about 3 months.* Etna's eruptions, for example, started to intensify from the end of September 2002 [4].

For what concerns the Sun, the effects produced by these waves, such as an intensification of sunspots, surface explosions, etc..., would happen with a *further delay*, as the heat generated inside the Sun takes longer to reach the surface.

We will see what happens.

What we can say in this case is, therefore, that the time taken by light to pass through these objects is of $2 \div 3$ months, as *we know a clock does not vary its time when plunged into a gravitational field.*

To know the real dimensions of these objects, *new Laws of Gravity are needed* that have to fix the *relationship between the density of matter with that of the surrounding space*, in order to obtain the speed of light by using the well known relation:

$$c = c_\infty \left(\frac{\delta_\infty}{\delta} \right)^{1/3}$$

[4]Being Etna, an always active volcano, it may be considered, on this point of view, as a *device sensing gravitational waves*, delayed in time of only a few months.