Fast opening of black holes

Heinz-Joachim Ackermann

Address(es) of author(s) should be given

Abstract. Black holes seem to be stationary. The following mathematical conception leads to the possibility of non-stationary and oscillating black holes. Their phenotype may be part of the explanation of astronomical phenomena and the fundamental structure of universe.

Key words. black hole physics – relativity

1. Conception of an oscillating black hole

The theoretical conception of a black hole is derived from general relativity theory. Black holes are forming themselves by collapse of mass (Stephani 1980). During this process, the mass falls down to the center of the black hole. Analogously to big bang, there had to start an expansion out of the center. Using the hypothesis of a locked black hole, it is possible to construct the new hypothesis: the expansion cannot come out of the black hole but will be turning around into an oscillation between contractions and expansions. Such a black hole feature would be an oscillator. Mass portions forced on curved orbits don't move upwards radially or do not fall down radially. They take their elliptical ways curving upwards to an amplitude R which is mostly smaller than the gravitation radius r. Well-known gravitation radius of a black hole is $r = 2GM/c^2$ (Nowikow 1986), where are M as internal mass, G as Newton's gravitation constant and c as vacuum light speed. Kerr's solution (1963) of general relativity theory gives this conclusion as possible: $r/2 \leq R \leq r$ (Stephani 1980).

The amplitude of an oscillating black hole results then:

$$R = \varphi GM/c^2. \tag{1}$$

Variable φ is defined with $1 \leq \varphi \leq 2$. The smallest amplitude results to $R_o = r/2$.

For an oscillator Planck's equation of quantum theory is valid: $e = h\nu$, with energy e, Planck's constant h and frequency ν. Using Einstein's equation $e = mc^2$ (with particle's rest-mass m), the mass will be $m = h\nu/c^2$. The product of frequency ν and wave length λ yields light speed $c = \nu\lambda$. The amplitude R of a vibration is $R = \lambda/2\pi$. We get the equation of frequency $\nu = c/2\pi R$. Mass equation results then $m = h/2\pi Rc$ and $m = \hbar/Rc$ (Rennert, Schmiedel, Weissmantel 1986). Consequently, the amplitude R of an oscillation is following now:

$$R = \hbar/mc. \tag{2}$$

Compton's wave length is comparable with it which is a function of the momentum mass of a light quantum. But here the equation (2) expresses the mass m of a resting particle which itself has an oscillation of its sphere's vibration R causing its momentum exchange.

For both amplitudes R, the relativity's equation (1) will be equalized to the quantum theory's equation (2), and finally equation (3) follows:

$$m = c\hbar/\varphi GM$$

with the new constant κ

$$\kappa = c\hbar/G$$

and

$$m = \kappa/\varphi M \tag{3}$$

with $\kappa = 4.737 \times 10^{-16} \, \text{kg}^2$. The result is formed from relativity theory and quantum theory. What potency has this combination?

2. Interpretation of the conception

Both kinds of masses stand in relationship by constant. If this had any relevance, each mass would be another feature of mass. This cohesion can be solved when the masses are distinguished into the internal sum of masses M and the external quantum mass m. An oscillating black hole of the inner mass M locks its internal coordinate system totally. That mass M like electromagnetic waves, too, cannot pass the horizon r. Therefore, the internal mass M does not act to the outside any more. Its exchange quanta of gravitation remain locked. Geodesic lines are completely curved. They lead back to the center of the black hole. Externally measurable mass m of the black hole now is derived from the oscillation of the black hole. This mass m is to be understood as the result of the spherical vibration of the black hole, when gravitational exchange quanta are spherically sent to and received from everywhere (these are spherical longitudinal waves). Black hole now is a quantum transmitter and a quantum receiver of those quanta transmitted by different black holes.

Consequently, the internal mass M of that black hole will be packed like zipped files, because the external mass m is always smaller than the internal mass M. The oscillating black hole of the sun, e.g. may only weigh $m_\odot \approx 1.2 \times 10^{-46}$ kg, when internally the sun's mass of $M_\odot \approx 2 \times 10^{30}$ kg would be zipped.

If this solution was a general principle, then those mass portions ΔM of M at the inside of a black hole would be oscillating black holes themselves. Relatively, these objects then were black sub-holes. They would be formed out starting from the surface of the black hole and falling down to its center. The mass M of the black hole would be zipped in portions of successfully decreasing masses and sent to the center. At the inside of the black sub-holes further substructures would form themselves after this principle into black sub-sub-holes and so on, probably down to the area of the unstable elementary particles. The consequence of this hypothesis was a hierarchy of oscillating black holes.

After falling-down of black sub-holes on elliptical orbits, these objects had to rotate around their common gravitation center and naturally to move upwards. Now another construction is following: the zipped mass has a new quality – it can fly out from the black hole when the gravitation radius is negated by a strong acceleration of black sub-holes. This moment the black hole itself is negated and opens itself.

During their climbing from the center, the substructures consisting of black sub-holes and their own subs would open by decay and eject particles and radiation in series of flashes. The radiation accelerates those black sub-holes which are just escaping at the top of the objects' front. Such a kind of inflation inside the black-hole-cosmos seems to be comparable with the inflation observed in universe. If radiation was balanced, topmost black sub-holes would open themselves at the inside of the gravitation radius r of their receptacle-black-hole; the variable φ we call now inflation factor doesn't take the value of larger than 2. That black hole remains locked.

When internal radiation energy was supported externally or when it got a surplus of energy during the formation of the black hole, that is bigger than necessary for locking it: the topmost black sub-holes are ejected far away from the theoretical gravitation radius r of the black hole. The inflation factor φ is larger than 2. This is possible because that mass which is already ejected from black sub-holes doesn't reach to close the state of the black hole. Locking the expanding black hole, the internal mass of the topmost black sub-holes was missing. These portions open themselves now at the outside of the hole being white now. This kind of an unstable black hole is destroyed as fast as it was formed! It only has lived half a period of an oscillation.

In the conclusion, our hypotheses could be confirmed after this principle of decay of black sub-holes. This way, we had constructed a cosmic oscillation accompanying effects of different inflation. If the oscillation was the first principle in universe, then the universe was newly explicable as a hierarchical system of oscillating black holes. The concept of black hole now is not sufficiently explaining the states of black at a collapse and of white at a decay (at an anticollapse) any more. A new concept is necessary, suggested for example using *protocosm* (Arcus 1998). Protocosms then are unstable non-stationary black and white holes. Their tasks are mass-zipping, destruction of its structures down to the particles' area, transport of the mass to another place with next to light speed, ejection of the new mass portions as concentrated rotation systems accelerated by radiation. Finally, protocosms were the reformer of the matter.

3. Conclusions

1. Big bang was the opening of the first protocosms in the center of universe: extremely many small protocosms exploded and radiated energy quanta and particles. But this process was limited to the center of the universe.
2. Inflation of universe was the effect of the acceleration of those protocosms which were flying above the big bang. They were successively bigger, lighter and faster than the first protocosms inside their cloud being the big bang.
3. Quasars were protocosms just after the phase of opening. Even micro-quasars were protocosms opening and locking themselves in short periods.
4. Galaxy centers would include protocosms swallowing old matter and ejecting new matter. Because of the oscillation of protocosms, gravitation force of galaxy centers had to be discontinuous.

5. Planetary and satellite systems were the results of the substructures of star-protocosms.
6. Protocosms were the preconditions of life programmed like unicellular organisms, ready for cell division after reception of matter.
7. Stable particles were stable cosmoses as black holes with inflation factor φ of 1. Their amplitudes are equal to R_o. Energy support would have destabilized them. Energy release and release of particle pairs would stabilize them back.
8. Using relativity theory's equation (1) combined with quantum theory's equation (2) forming the oscillating cosmos feature (3) may be the start of the unification process of both theories.
9. Instead of strings there was a hierarchical system of spherically vibrating protocosms and microcosms forming the macrocosm by primary exchange of longitudinal wave quanta with spherical shapes (with three-dimensional vibrations).

References

Arcus 1998, Die Einheitliche Feldtheorie, 478
Nowikow, I. D. 1986, Schwarze Loecher im All, 8-12
Rennert, P., Schmiedel, H., Weissmantel, C. 1986, Kleine Enzyklopaedie Physik, 178-238
Stephani, H. 1980, Allgemeine Relativitaetstheorie, 209-223

This groundbreaking information could not be published at that time. The draft remained and was rejected. So the representatives of the other Big-Bang-Universe got stuck in their own objects. There they still hang today, trapped in dark matter and dark energy, with their Nobel Prizes in their hands.

It is so simple: my protocosms use their invisible energy to transport the contents along invisible ("dark") paths to the installation position, where they evaporate and release everything at the beginning with an extreme gravitational red shift.
That is why the redshift of galaxies does not decrease!

Please, also habe a look at this:
My site in WWW is https://www.arcusuniverse.com