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Experimental Confirmation of the Kerr Black Holes by Observing Decameter and Decimeter Radiowave Pulses

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1. Introduction
The possibility of the observations of the black holes has long been focused on the studies on the x-ray radiations that have been thought to be generated by high energy particles in the accreting disc surrounding possible black holes. Since 1984 we have proposed the possibility of the detection of the rotating black holes by observing decameter radio wave pulses whose periods are coinciding with the rotation periods of the black holes, i.e. Kerr black holes, independently to general trends of studies.
The comparison of observation of decameter wave pulses , obtained in 2002 and 2004 with the decimeter wave pulses observed in 2007 and 2008 both for the sources from our Galaxy center have been made to investigate the characteristic points of Kerr time space. The observed decameter pulses show sharply defined pulse periods whose accuracy of the determination had been made within a shift rate less than 0.1 % while the periods of observed decimeter pulses are widely spread in a wide range where the shift rate of the periods from the center value approaches to almost 20%, in most of the cases.
2. Rotation Periods of Black Holes Near the Event Horizon
The analyses in the present study have been made starting from equation of particle motions which are following the geodesic surrounding the Kerr black hole; the particles are source agency of the radiations of electromagnetic waves. The rotation periods surrounding the Kerr black hole reveals widely spreading value depending on polar angles and the distance apart from the event horizon. In the region close to the event horizon, however, rotation of all of the particles are locked at a given value of the rotation periods ,which are represented by the rotation of the space at the event horizon, without dependence on the energy and angular momentum of the moving particles and the located polar angle of the particles. This evidence definitely gives us confidence that we can observe rotation of the black holes in term of the pulse as manifestation of the co-rotating inhomogeneous situation close to the event horizon where the release of particle energy takes place coherently while the radiations in general area except for the event horizon are spread in widely varying rotation periods.
3. Experimental Verification of the Kerr Time Space.
Analyses of the time-space in the frame of the particles which are radiating the EM waves ,while encircling down towards Kerr black holes in the region close to the event horizon, indicate extremely large red shift rate; i.e., the radiation frequency observable in the Minkowsky time-space is extremely reduced when the radiation sources approach to the event horizon. Theoretically, the reduction rate tends to zero at the exact event horizon.The calculated results of reduction rate varies with root function of deviation rate of the distance that is defined as ratio of deviation distance from the event horizon to the radius of event horizon which is measured from the center of the black hole.
When we apply this frequency reduction strictly to observable frequency, the results show that positions of the decameter radio sources are located in regions closer to the event horizon than the source positions of the decimeter. The feature of the widely spreading periods revealed by

decimeter wave pulses corresponds to the spreading of the rotation periods of particles given in Sec.2 in a certain range of distance in Kerr time- space located in regions apart from the event horizon, but still in the area close to the event horizon from global stand points of view of black holes.
In this context, comparison of decameter and decimeter wave pulses originated from the rotating black holes gives the first experimental evidences to investigate the existence of the Kerr time-space.

Keywords: Black Hole, Decameter Radio Wave Pulses, Decimeter Radio Wave Pulses,
Kerr Time -Space, High Energy Particles