Verification of the Source Direction by Method of the Ionosphere Disturbance Free for the Decameter Radio Wave Pulses from the Binary Black Holes in the Center Part of Our Galaxy

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1) Introduction
In the present studies, the existence of a massive binary black hole system had been proposed being based on the observation studies of the decameter radio wave pulses at 21.860MHz by using the long base line interferometer for the decameter radio waves at Tohoku University. To conclude the position of the binary black holes, however, it is essentially required to verify the source direction of the decameter radio wave pulses even under the condition of the influence of the ionosphere that gives significant shift of the arrival direction of decameter radio waves from the corresponding sources
2)Review of the Results of the Current Studies
. Though the main contents of FFT results of observation data are white noises from all the sky with standard deviation of 1.2 percent of the average level, there are remarkable components ,in the results, that are apparently larger than the standard deviation and are called meaningful signals of the present studies. Corresponding to these meaningful signals of FFT results, the original pulses are reproduced applying the method of simulation where the pulse functions are constructed introducing necessary parameters. At the present, the existence of a binary system with member BH’ s Gaa and Gab (temporally named here) with spin periods respectively 174+-2sec and 147+-1sec with orbiting speed, also respectively 18 percent and 20 percent of light velocity under the condition of orbital periods of 2200 sec is clarified. From these parameters the masses of BH are deduced for Gaa and Gab respectively to be 2.34E6 +- 4E4 and 1.98E6 +-2E4 in the unit of solar mass.
3) Determination of the Direction of the Source of the Radio Wave Pulses The detection of the source direction of the radio wave pulses , at 21860MHz of the present studies, is seriously affected due to the ionospheric propagation of the radio waves. Because of difficulty to obtain accurate real ionospheric electron density profiles at the same time of the radio wave propagation, the method to calculate the ray paths to correct the observed source direction is unrealistic. Then, a newly invented method where a equivalent interferometer system lifted in space (EISLS) escaping from the effect of ionosphere propagation is applied in the present work. The EISLS interferometer is set in the processes of data analyses with the following 3 items of constraint; i.e.,1) EISLS should have the completely same relative baseline lengths and directions between each corresponding interferometer stations; 2) In space escaping from the ionosphere, EISLS should be located exactly on the ray path of the radio waves that are propagating from the sources towards the actual interferometer on the ground under the influence of the ionospheric electron density profiles and 3) The algorism to analyze the direction from the observed interferometer data should contain the function to eliminate the ambiguity of the relative phase differences of arrival signals between the corresponding stations of the interferometer. system
4) Conclusion The direction of the source of the decameter radio wave pulses
that give the results of existence of the massive binary black hole has been confirmed to be in the direction of Sgr A* within +- 0.1 degree accuracy by the calculation of the interferometer data.

Keywords: Ionosphere Affection, Decameter Radio Waves, Direction of Galaxy Center, Black Hole Binary

