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A Multi-wavelength Data Analysis with Multi-mission Space Telescopes

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Abstract:- The article summarizes the software tool on astrophysical analysis with multi-wavelength space telescope data. It recaps the evidence analysis conducted on the Kerr-Newman black hole (KNBH). It was written prior to the article Research on the Kerr-Newman Black Hole in M82 Confirms Black Hole and White Hole Juxtapose not soon after the experiment. The conducted analysis suggested Hawking radiation is caused by the movement of ergosurfaces of the BH and serves as the primal evidence for black hole and white hole juxtapose. A later data exploration was conducted with the radiation trails in the multi-wavelength data. The evidences produced corroborates with Yale professor Priyamvada Natarajan's black hole seeds theory. It implies that the electromagnetic dynamic of fusion and fission temperature determines the pressure of surface tension on the macro particles, and the mass density of the BH is determined by the electromagnetic tension between the outer ergosurface and inner ergosurface. The ring singularity of the BH and the Penrose-Hawking singularity of the BH determine the spin and gravitational singularity of the BH. Inside the ergosurfaces, the BH singularities' backward inflow causes the vicinity's rate on feeding the BH. It makes the active galactic nuclei (AGN) a semi-closed system. The density pressure is released on threshold. During the mass exchange observed by energy momentum upon the AGN's open, the macroparticle composition of the BH changes with the galactic event. This causes the expansion rate of the galaxy and contraction rate of the BH. AGN types and their relative motions determine the expansion rate of the cosmic universe in a generalized quantitative thinking. The article concludes that BH spin is caused by the asymmetric motions of AGN in the BH system. A set of the nuclear resonance caused by BH and white hole (WH) oscillation is processed with the same set of data.

I. INSTRUMENTATION OVERVIEW

The multi-spectrum data I used are from space telescope instruments. *Table 1* is an overview of the cosmic spectrum and physical locations of the instruments. The reference planes are determined by the orbits of the instruments. The basic analysis I performed was on the legacy software JS9-4L online. The photometric information on the software interface was based on special relativity. The physical meanings are in *table 2* in a three-dimensional spacetime context. I performed further analysis of the data with SAOImageDS9 software for confirmation. Lorentz transformation is supported with each piece of data as inertial frame. The functional analysis in astrophysics and macroparticle physics is in *table 3*.

Instrument	Spectrum	Orbit
GALEX	UV	Geocentric
Hubble	Optical	Geocentric Equinox
Chandra	X-ray	Geocentric Highly Elliptical
Spitzer	Infrared	Heliocentric

Table 1: Cosmic Spectrum of the Space Telescopes

FITS Header	Brightness	Pixel Value	Physical Location	Scale
BITPIX	Speed of Light	Mass	Linear Distance	Hyperbolic Wave Functions
Time Observed	Physical Distance	Gravity	Source Age	Travel Time

Table 2: Software Information on Theoretical Physics

Mode	Lorentz Transformation	Applicable Law
Min max	Gravitational Intensity	Newtonian
Zscale	Inverse Function	Einsteinian
Histogram	Arrival Time	Hopkins

Table 3: Astrophysics and Astroparticle Physics

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II. METHODOLOGICAL JUSTIFICATION AND BIAS

In a context of energy conservation, all actions in modern infrastructure are performed by human. In collective action an action performed is not confirmed without a feedback action. Such simultaneity of collective action is synonymous with cosmic happenings. The observed events of cosmic happening measured by the speed of light is the coefficient factor of cosmic knowledge. It differs from astronomy and related industries where travel speed is less than the speed of light. Therefore epistemologically, cosmic knowledge and cosmic happening is simultaneous with a factor of light speed. Such epistemology is leveraged by the infrastructural space telescopes in the solar gravitational space advantaged in cosmic clarity and human design to the observer by the cones. The limitations of light chemistry observation on the universe are the methodological scope in observational astronomy. The methodology adopted in this evidence analysis is determining the data by discrete assessment of data symmetry and continuity in theory confirmation. The quantum causal effect has been counted for as a baseline in the visual reading of evidence data. With James-Webb Space Telescope being deployed, further synchronized symmetries on the infrared wavelength can be gotten in the mission time overlaps with SPITZER before its decommissioning.

Effect	Solution	Implication
Gravity bends light	Gravitational Congruence	Globular Time
Wavelength Shifts	Multicentricity	Macro Spectrochemistry
Hidden Dimensions	Weak Force and Strong Force Trace in Light Chemistry	Differentiation of Objects and Interstellar Medium

Table 4: Cosmic Asymmetry and Information Asymmetry in Observational Astronomy

III. PROCEDURAL PROCESSING

Data assessment on the timescale was the primary procedure in this research. It was done by human reading of the FITS headers. The analysis on the aspects of physics, theoretical physics, and astrophysics was performed on the basis. Information of the evidence data is in *table 5*. The Chandra and Spitzer datasets are continuous so as the direction of projected timeframes. The files are all reprojected on 2019-10-16. The abnormal lack in pixel value of the X-ray dataset was ruled out on the possibility of bad pixels, and confirmed by later IRAC queries with WISE data. The data descriptors provided a guideline on the astrophysical meanings and implications of the data.

Sample Data	Time Observed	Date Observed	Bits/pixel	Reference Plane
Optical (Reproject)	14:31:02	2019-10-16	-64	Geocentric Equinox
Ultraviolet	11:16:25	2009-01-31	-64	Geocentric
X-ray Low Energy	13:28:10	2019-10-16	-32	Geocentric Highly Elliptical
X-ray Mid Energy	13:27:57	2019-10-16	-32	
X-ray High Energy	13:27:25	2019-10-16	-32	
Mid Infrared	19:48:05.517	2005-05-09	-64	Heliocentric
Near Infrared	19:52:28.387	2005-05-09	-64	Heliocentric

Table 5: Categorization of Evidence Data

With reference to time observed, the ordered event in the X-ray dataset is from high energy to low energy. The trace of the energy flow on the projected plane is from low energy to high energy. The phenomenon of the X-ray dataset naturally led to the conclusion of a BH. An inverse processing of the X-ray data was adopted by the consecutive time dissect. Asinh function was used on the visual merge of the data in accentuating the event horizon. The concept of the visual merge lies with that the observation data is essentially a result of light chemistry interactions on the projected plane of the observed event (CAO, 2021). The high energy source indicates to Hawking radiation of the BH and Bolometric luminosity. The Eddington limit of the source dataset is 700 – 6,000 eV with corrective low energy data 350 – 1,100 eV. The infrared dataset was processed with the principle of non-locality. The quantum electric effect is clear in log scale in the dataset (BOHM and HILEY, 1981). The infrared dataset revealed the electromagnetic phenomenon of the accrediting BH. Asinh was used to form the luminous electromagnetic visualization of the event (CAO, 2021). The energy momentums of the two inertial timeframes in mid and near infrared is consistent with the X-ray dataset. Therefore, the processing results concluded NGC 3034 is a BH with charge.

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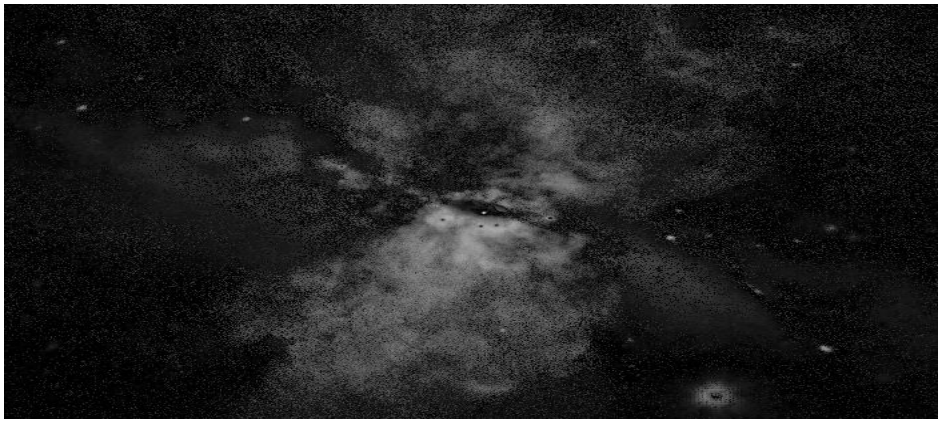

Fig. 1 White Hole Material Ejected from the Black Hole with Explosive Nuclear Resonance

IV. CONCLUSIONS OF THE EXPERIMENT

A. BH Type of the AGN

The AGN in NGC 3034 were constantly fed by its vicinity. The fusion and fission energized gas and fluids with electromagnetic kinematics in the free and open space, partially bounded by the accelerating gravitational force of the BH. The electro gas and fluid dynamics magnify and electrify the periphery of the galactic system with nuclear resonance and explosive jets. On a SI unit basis, with an interval of 262s 870ms, the remnants pushed out of the vicinity of the BH caused and affected Messier 82's star forming, mass and component exchanges in the thermo dynamic environment, and changes in the planetary systems in the galaxy (CAO, 2021b). On a lower energy scale, with an interval of 32s the change in radioactive pulsar is shown in *fig. 2*; with an interval of 13s the backwards accreting of the pulsar is obvious in the visualized data, with an overlap of energy momentum between 700 – 1,100 eV; the net exchange of energy during the 45s pulsar can be measured with complementary data from the scientific modules, in relation to the variation of density in the galactic medium (CAO, 2021b). The magnitude of the persistent magnetosphere is visible between **1 and 2** in *Fig. 3*. This explains the mechanism of Hawking radiation detected in X-ray in **3 and 4** in *Fig. 3*. With strong gravitational force and coupling of substance density, and strong electromagnetic force, part of the vicinity remains attached to the BH and relatively stable in the time slices. A vertical comparison can be cross-examined among **1 and 2** and **3 and 4** in *Fig. 3*. This implies that the traceability of Hawking radiation from a charged BH is determined by the electromagnetic ring's thermo-electric shifts on the fusion and fission processes with vicinity. This is a plausible explanation for the lack of pixel values in the central region of the X-ray radiation in the dataset caused by explosive momentum, which signifies the BH-WH spin's astrochemical oscillating effects to astrophysical observations. On the magnitude of the BH's influence on the galactic system during its feeding, the nuclear reactions on the vicinity are still active and affects the electromagnon sphere of the BH. Further synchronized studies and surveys on the Penrose-Hawking singularity is key to the development of the subject. On the space aspect of the experiment, the AGN relative to the spin of the BH-WH inserts strong gravitational force wave on the galactic plane. The powering mechanism of AGN functions the macroparticle rotations of the galaxy with the observable phenomenon. Measurement of spatial asymmetry was mentioned in the Caltech tea talk with professor Ruth A. Daly with exchange of energy levels to distance (DALY, 2020).

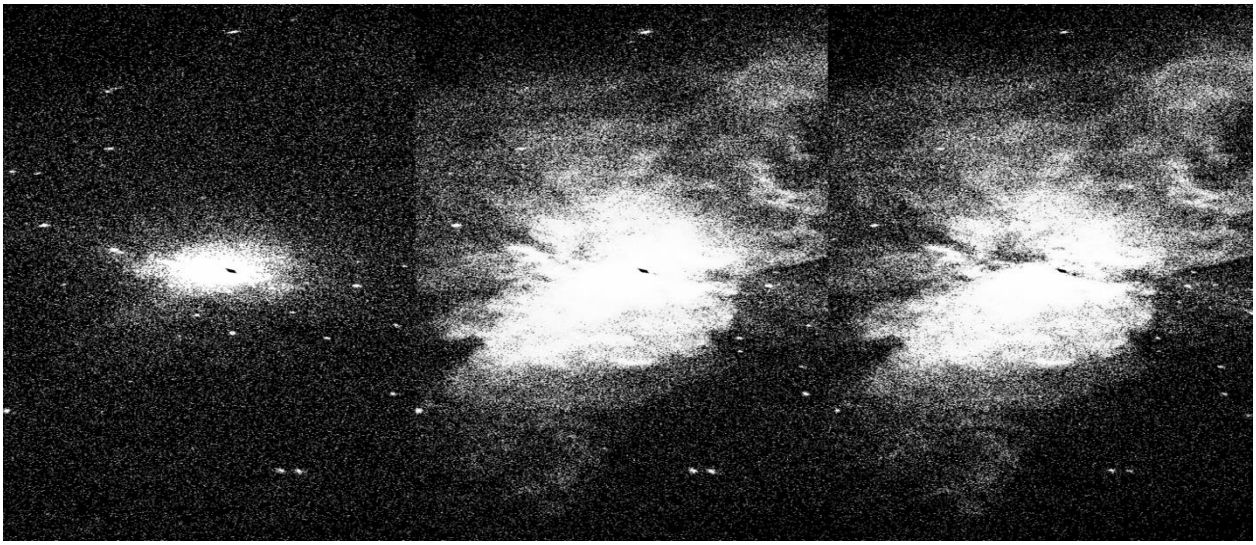

Fig. 2: Pulsar and Accretion in X-ray

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Data Note:

- *During the backward accretion the pulsar remained dispersing relative to the BH;*
- *The pixel values circuiting from upper left of the BH experienced significant drop from the lower surface of the left arc, and upper points of the right arc from high to mid energy; during the backward accretion from mid to low energy, the whole arc surface experienced significant drop in pixel values. This proves my theory of the mechanism of Hawking radiation in relation to the ergosurfaces of the BH;*
- *Further congruence model building and quantification method is discussed in further determining spin of the BH and differentiation with pulsar (Kalvakota, 2021);*
- *The increasingly drop in X-ray to the right angular point of the arcs during the whole process is visible.*

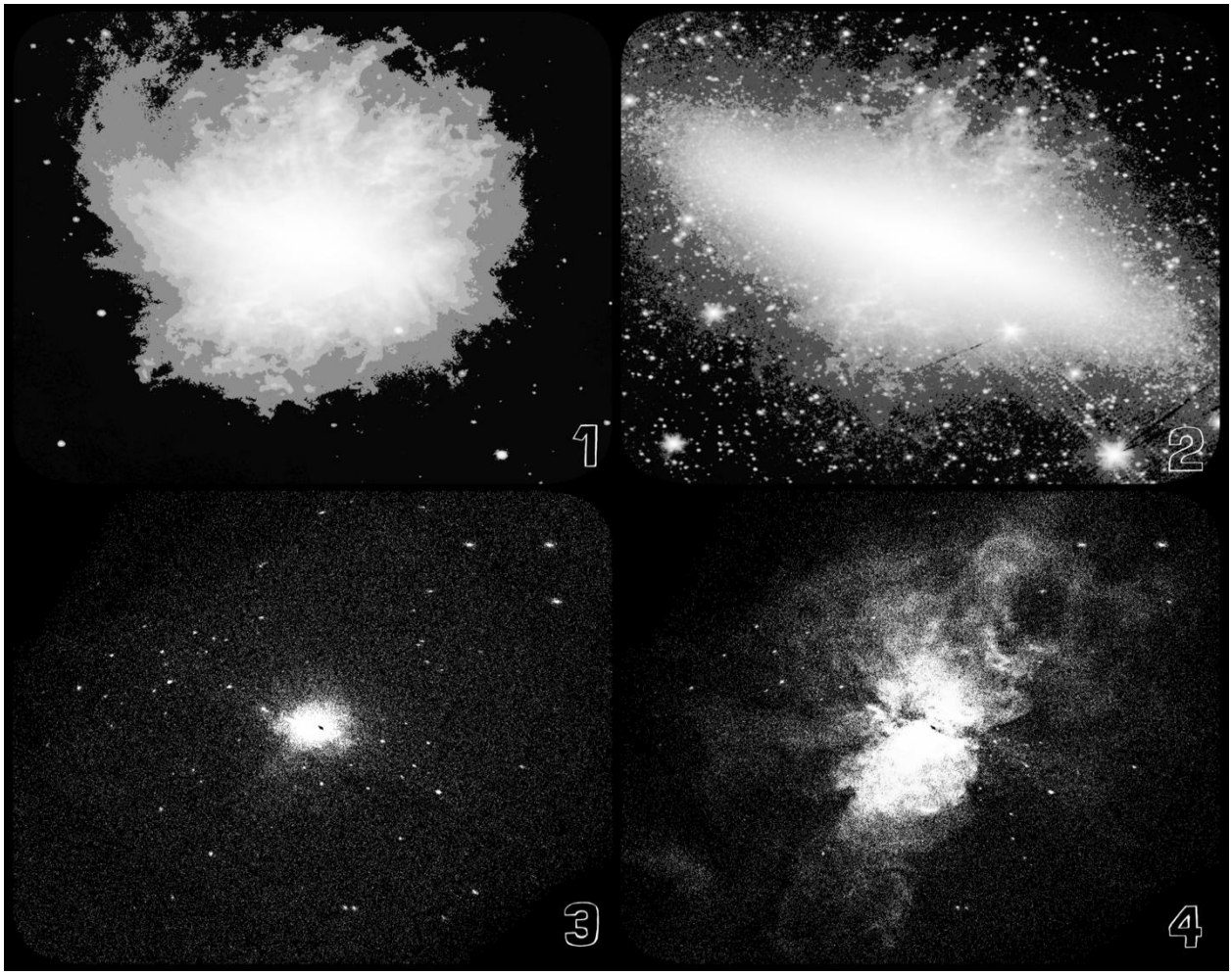

Fig. 3: Histogram by Order of Date and Time Observed

Data Note:

- *The decoupled macroparticles spread out to space from 1 to 2 with crystallization effect;*
- *By difference of date observed the composition of BH vicinity and pulsar range changed seen in 3 to 4;*
- *The decrease in crystallization effect indicates that the thermo and pressure environment of the BH has changed over time in the free and open vicinity of the AGN;*
- *The change in thermoconductivity of the vicinity could have influenced the pulsar range and star formation.(Ellis, 2013)*

B. AGN Thermo Change

I adopted a complementary approach to professor Daly's with the exchange of energy levels to data rendition. The AGN energy scale experienced drastic decrease from mid to near infrared, but the structural congruence remains relatively stable according to pixel values. The evidence suggests the crystallization effect is caused by the cooling effect in open space environment of the AGN. The systemic opening of the BH allowed low temperature thermo inflow during pulsar and serves as closing mechanism to the BH system. It provides an alternative explanation for the observable phenomenon in *fig. 2*. As the overall thermo environment of the BH vicinity changed with the galactic formation and development, the BH's systemic behavior changes over time with its mass density. The Bekenstein-Hawking entropy formula provides a static solution to explain the process. Asymmetry in the process is the causal factor for BH spin controlled by thermo-conductivity and interaction with the vicinity. It supplements the phenomenology in the X-ray data in *fig. 2*. The surficial vicinity of the BH was visualized in *fig. 5* with the dataset.

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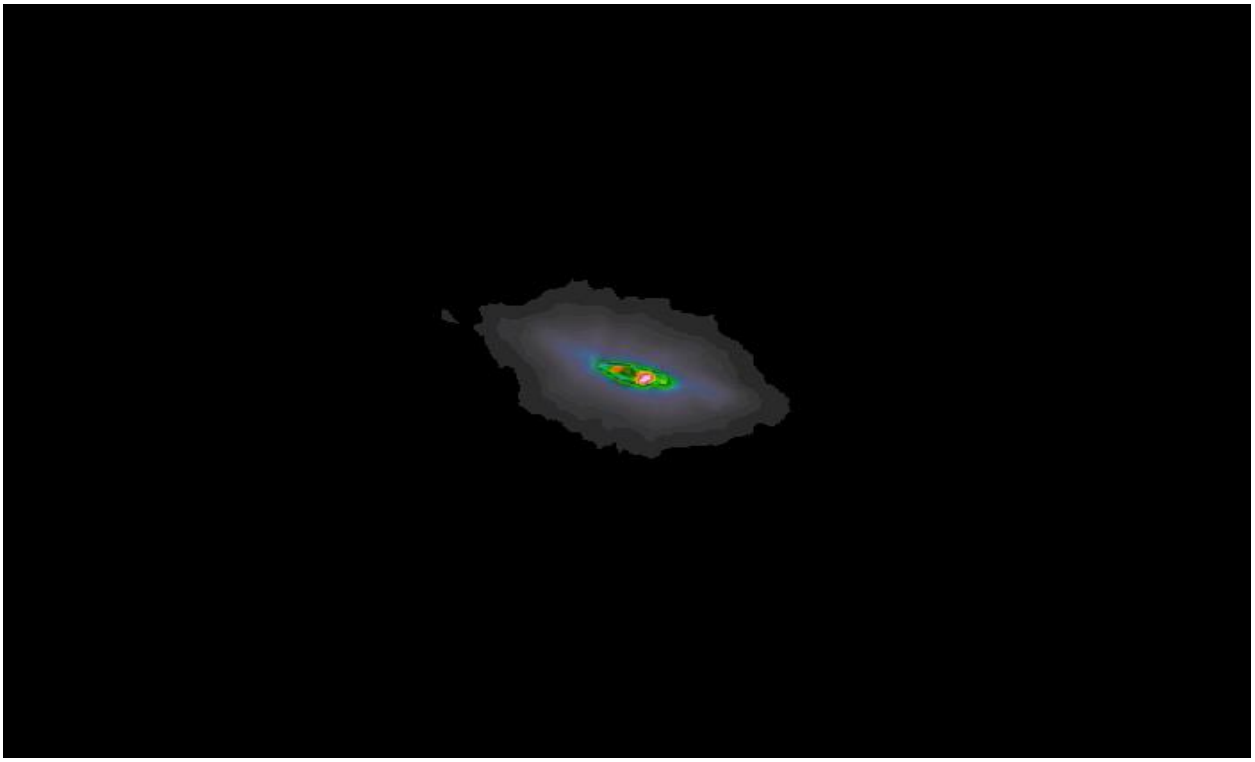

Fig. 4: Material Field of WH-BH Juxtapose Reduced to the Infrared Energy Baseline with AGN

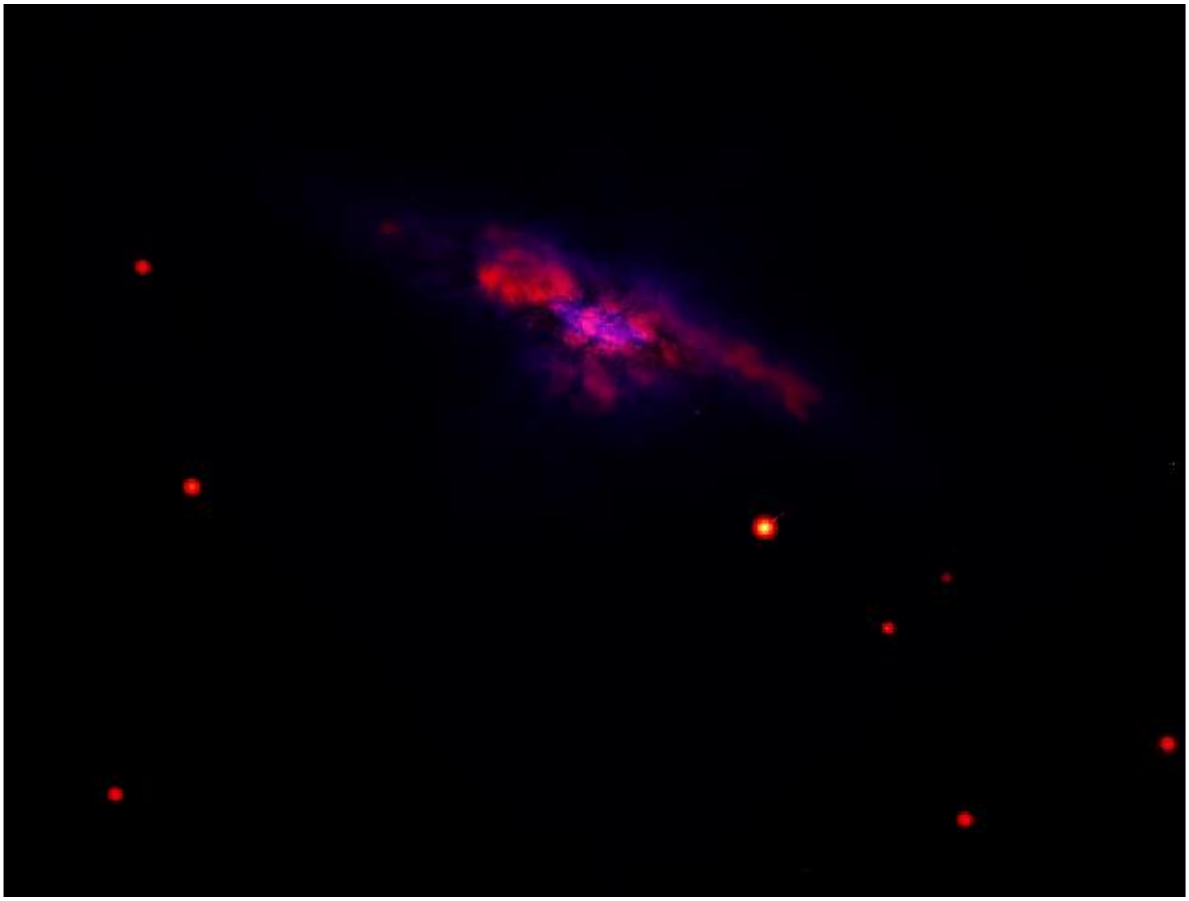

Fig. 5: Visualization on the Intersection of Vicinity and Pulsar (X-ray excluded)

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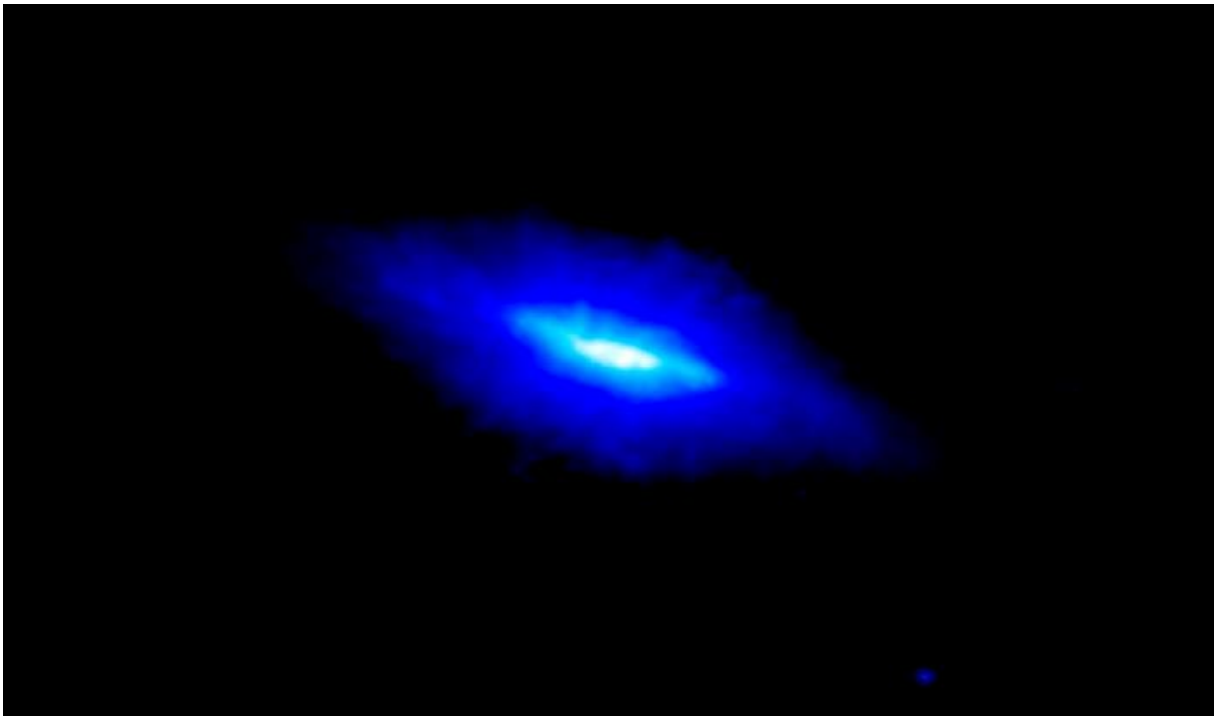

Fig. 6: Visualization of the Systemic Open Phenomenon of the WH-BH

C. BH Thermo-Pressure Contraction with Lorentz Transformation

The constant thermo-pressure change of KNBH influences its shape on a fourth dimension of time. Due to the coupling effect on the BH with its vicinity, the peripheral surface remains constant. Macroparticle detachment is influenced by the factors of thermo-pressure tensions and thermo-conductivity. Contour of the process is in *fig. 8*. By photoelectric differences between infrared and X-ray, the thermo-pressure-electromagnetic change during BH feeding could have influenced the radial activities of the AGN inside the ergosphere. It is plausible that miniature BH can be formed on vicinity of the super massive black hole (SMBH), as the weak electron data suggests in *fig. 4*. To test if the theory is true further data and analysis on the change of gravitational waves is needed. A preliminary data rendition of black hole seeds was later performed with the same set of data.

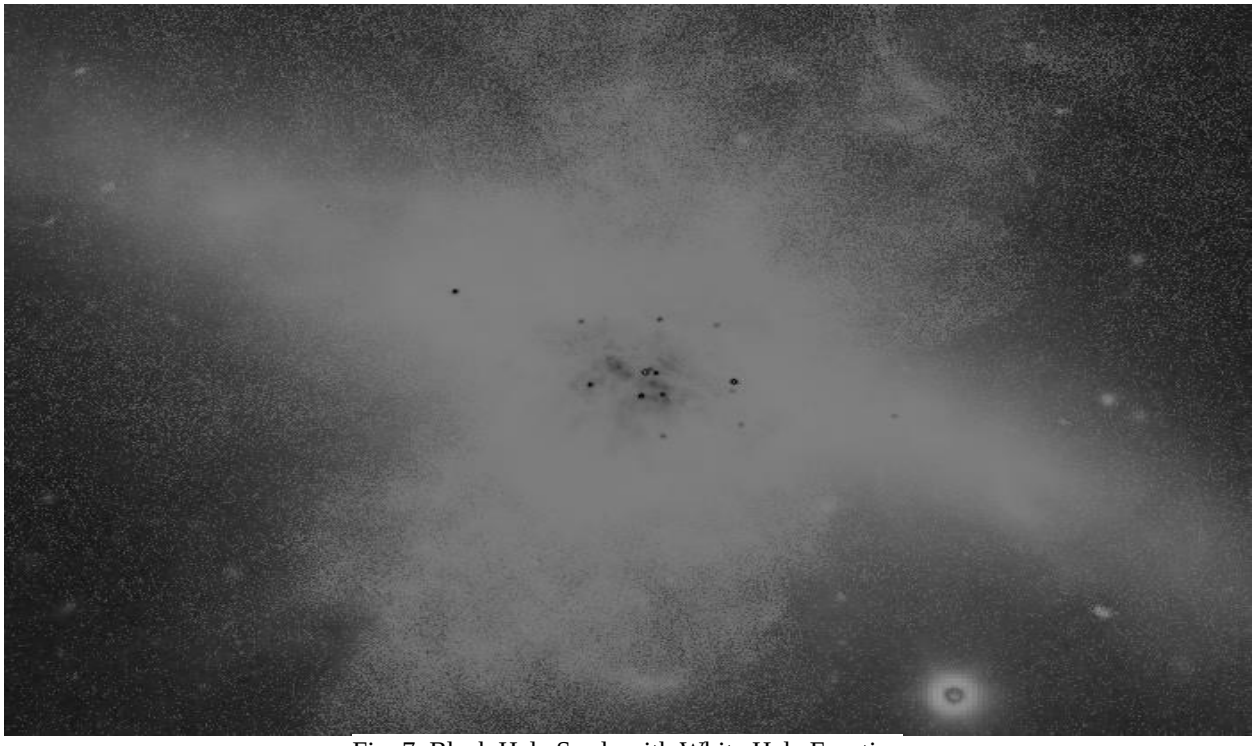

Fig. 7: Black Hole Seeds with White Hole Eruption

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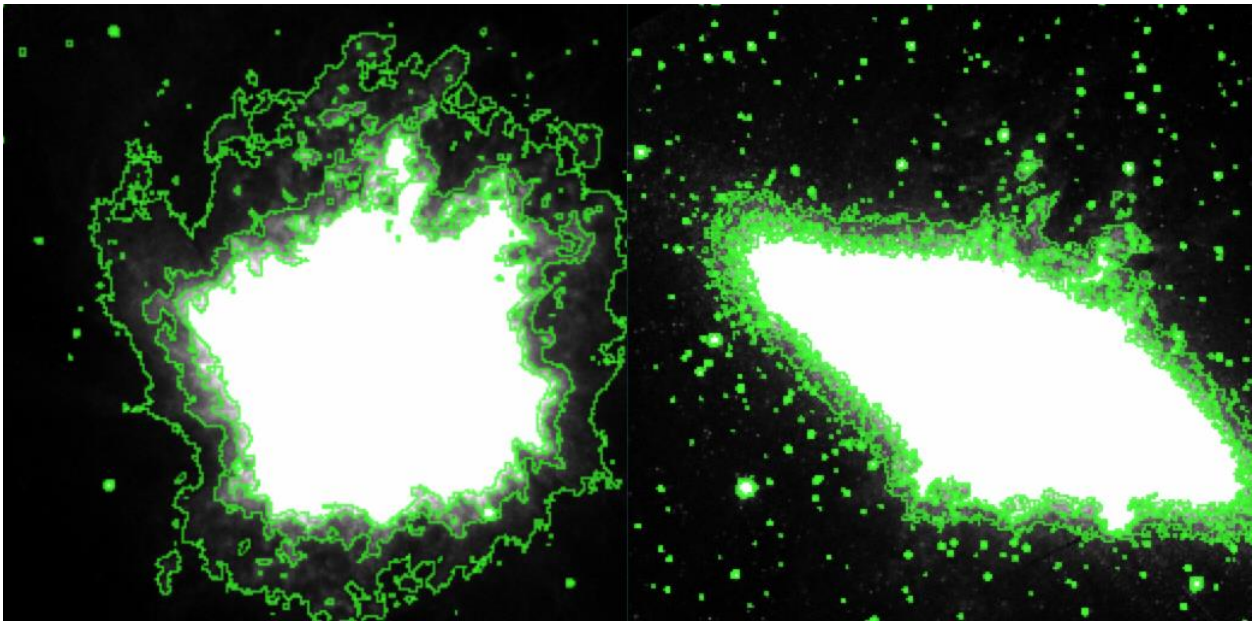

Fig. 9: Zscale Contour of Mid and Near Infrared

V. DISCUSSIONS

AGN and BH are the central component of galactic evolution. In a traditional sense speed of light has been the limit for BH studies. Modern instrument and big data has shed new light on BH AGN, and WH studies in a scope that artificial intelligence may be utilized in simultaneous recognitions of astroparticle compositions, thermo temperature, electromagnetic changes, and etc., adding values and metadata insights into raw observations. Various aspects of astrophysical BHs are also critical in understanding fusion and fission in the natural cosmic environment.

The key aspects underlying this vision are:

- How to design learning algorithm in particle accelerators and fusion devices?
- How to determine the empirical network of data and transfer mechanisms?
- What kind of data velocity is needed for space and ground transmissions?
- What protocols are needed for such transmission and feedback data sharing?
- What are the security concerns and or propriety concerns in data storage and utilization?
- What are the differences and limitations in natural diffraction in outer space and laboratory ground environment?
- How satellites can be leveraged for efficacy of outer space surveys?
- Do we have any possible method in determining antiparticles in such systems?

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