INTRODUCTION TO VOLUME 26: Editor in Chief Rudy Schild

SgrA* observations compared to Black Hole/MECO theories

Our header image showing the Galaxy Center collapsed object was made at long infrared wavelength to avoid the strong and variable dust extinction in this direction. The image is a color translate in which infrared wavelengths 30, 24, and 37 microns and displayed as B,V,R. An excellent paper by Lau et al (2003) reviews the earlier studies of this object. However the Lau et al paper does not consider that the evident accretion disc inner illuminated edge is strongly miss-aligned with the plane of the Galaxy, even as it does consider the inclination of the ring to the line-of-sight to the Center of the Galaxy.

Journal of Cosmology welcomes manuscript submissions that characterize the relationship of the ring structure to the plane of the Galaxy. We also welcome manuscripts that describe the relationship of the central ring and its larger accretion structure to the North Galactic Polar Flow seen in sub-mm data and also the accretion plane of the in-falling Low Surface Brightness satellite galaxies in the Local Group (Kroupa reference Volume 15). Do all 3 of these structures lie in the same accretion plane?

The SgrA* image in Lau et al (2013) also shows structuring of the accretion disc inner edge into centrally condensed luminous (at long IR wavelengths) objects. Are these the rogue planet population identified in microlensing studies dominating the structuring of matter in the Q0957+561 gravitational lens system as described observationally by Schild (1996)? Diameters of these omjects have been measured to be (.12 - .15) pc by Lau et al. A comparable set of gaseous objects have been seen in the Helix and other

planetary nebulae and called “cometary knots.” Journal of Cosmology welcomes manuscript submissions that are studies of the knots in the inner side of the inner ring.

Perhaps the most intriguing structure in the SgrA* image is the white (mini-spiral structure seen nearly atop the compact object’s position. The total energy distribution of SgrA* is known to be dominated by a long flat peak which by its flatness is indicated to be synchrotron emission. The emission of this object is measured by calibration of the detector and filters to total 10^7 Lo where Lo is the solar bolometric luminosity. This luminosity is not seen at visible wavelengths because of the interstellar absorption to the Galactic Center. However it is well known that although black Hiles emit no radiation, quasars are the most luminous objects in the sky. This seeming discrepancy is ordinarily resolved by noting that accretion physics probably supplies the luminosity.

Here we see the accretion physics dominating the luminosity by producing synchrotron emission by electrons Larmouring from the accretion disc downward onto the poles as something like Bondi emission as predicted by Leiter and Robertson(2011) This allows predictions about the polarization structure in the mini-spiral. In particular we would expect (predict) linear polarization where the line of sight is perpendicular to the filament and circular polarization where the line of sight looks along a magnetic field line. Journal of Cosmology would welcome a manuscript describing the predicted or the measured polarizations.