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**EXIST: Surveying Black Holes from the Early Universe to Local Galaxies**[1]

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The Energetic X-ray Imaging Survey Telescope (*EXIST*) is proposed to survey the Universe for black holes on all scales and is a leading candidate to be the *Black Hole Finder Probe* with three primary science goals: **1.** Detect and study cosmic gamma-ray bursts (GRBs) at high redshift to study stellar mass black hole formation and the epoch of re-ionization in the Early Universe. **2.** Conduct an unbiased hard X-ray survey for supermassive black holes in galactic nuclei to measure the fraction of those that are obscured and/or dormant to constrain the accretion luminosity of the Universe; and **3.** Study high energy transients, from stars to SMBHs, synoptic with ground and space temporal surveys. *EXIST* would carry 3 instruments: a wide-field (90°x70°) high energy (5-600 keV) telescope (**HET**) to yield <20" source positions; a 1.1m optical-infrared telescope (**IRT**) which images a ∼4'x4' field around the HET position simultaneously in 4 bands (0.3-2.1microns) and obtains low-res or high-res spectra and redshifts; and a focusing soft X-ray imager (**SXI**) for sensitive 0.1 –10 keV images (20' FoV and 15" resolution) during both the 2y scanning mode and 3y followup pointings for imaging and spectra. *EXIST* would serve a broad community of guest investigators following a proposed launch in 2017.

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[2](on behalf of the EXIST Team)