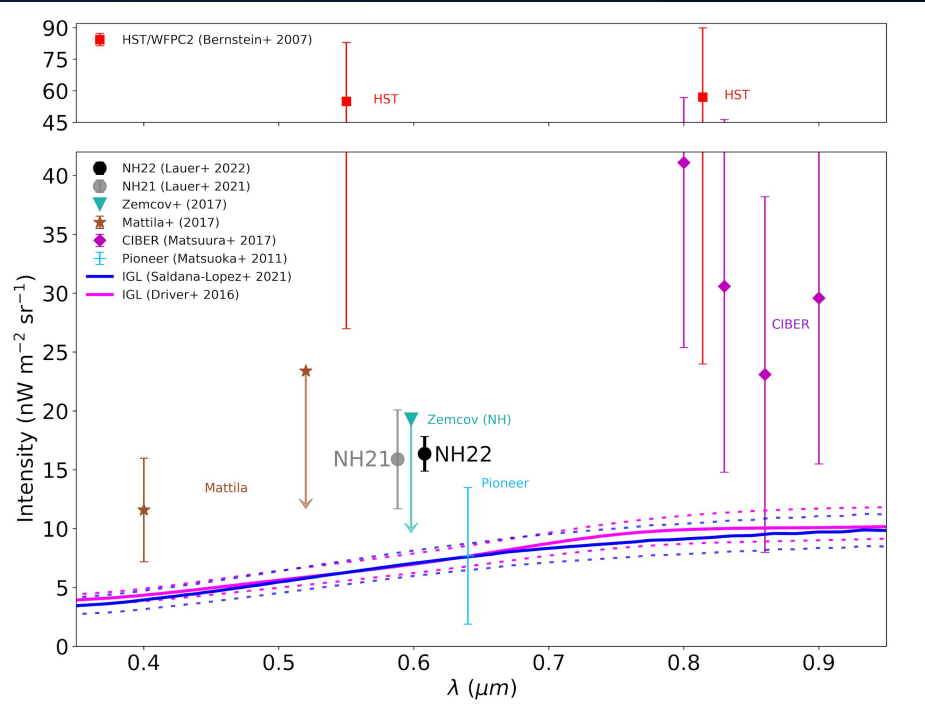


# How Dark is Space? Twice as Bright as Expected!

The New Horizons spacecraft recently obtained the best ever measurement of the amount of light coming from the distant Universe. The level seen is *double* that accounted for by all galaxies.

- The cosmic optical background (COB) measures the total amount of light from stars, accreting black holes, and so on, over the age of the Universe. Comparing the COB to the population of faint galaxies known from observations can reveal unexpected processes generating light.
- New Horizons is so far out in the solar system, it is free of the bright foreground of dust-scattered sunlight affecting observations made in the inner solar system. The sky level measured in deep images from New Horizons was compared to the brightness of all known sources of light.
- The result indicates there is a major unknown source of COB sky light equal to that contributed by all known galaxies and that NASA's New Horizons spacecraft, which is presently over 50 au away from the Sun, is an excellent platform for COB observations.



Measurements by many groups on how bright the COB is (vertical) as a function of wavelength (horizontal), compared to the most recent New Horizons COB measurement (black “NH22” point). Galaxies (IGL), are shown as solid horizontal lines with dashed lines showing uncertainty. New Horizons provides the tightest constraint and strong evidence that the COB flux is significantly brighter than the total light from all known galaxies.