

Measuring cosmic distances is one of the most important, most exciting and most difficult tasks of modern science. It allows not only to learn the size of the Universe, but also to examine what it is like built and how it evolves.

After discovering the accelerated expansion of the Universe (Nobel Prize 2011), learning about the mysterious nature dark energy has become a challenge for modern astrophysics. One way to study the dark energy is to precisely determine the Hubble constant.

We propose a new approach to improving the brightness calibration of Cepheids, TRGB, and JAGB - currently the biggest problem in measuring the Hubble constant. Our results will have a major impact on cosmology and other areas of modern astrophysics.