

SKA is a new technology radio-telescope array, about two orders of magnitude more sensitive and rapid in sky surveys than present instruments. It will be able to detect and measure the redshifts of billions of galaxies at the redshifts up to  $z=2$ , to probe through baryonic acoustic oscillations the nature of dark energy; it will probe the dark age of the universe, just after recombination, and during the epoch of reionisation ( $z=6-15$ ); it will be the unique instrument to map the atomic gas in high redshift galaxies, and determine the amount and distribution of dark matter in the early universe. We will discuss these exciting perspectives, which will realize around 2020.