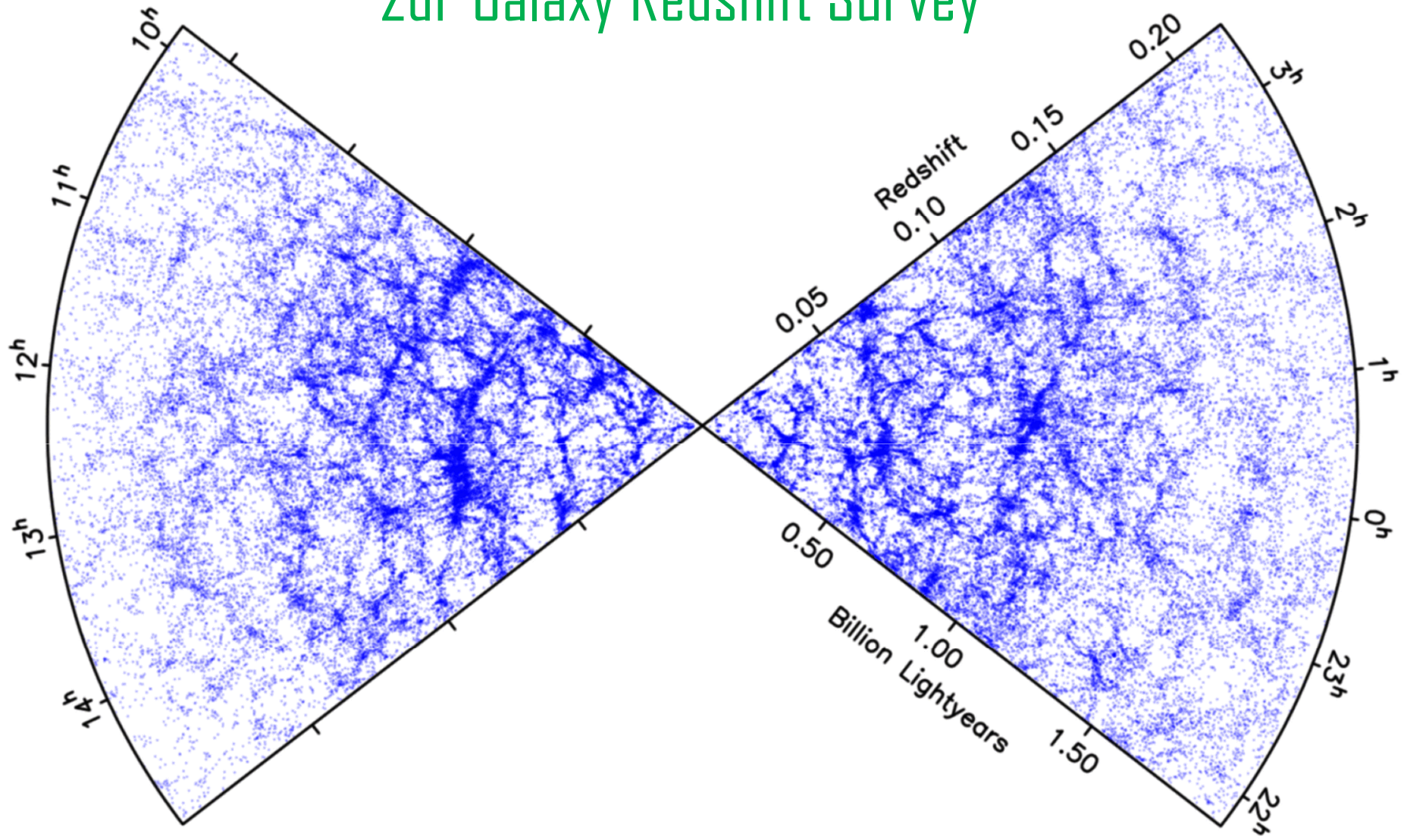
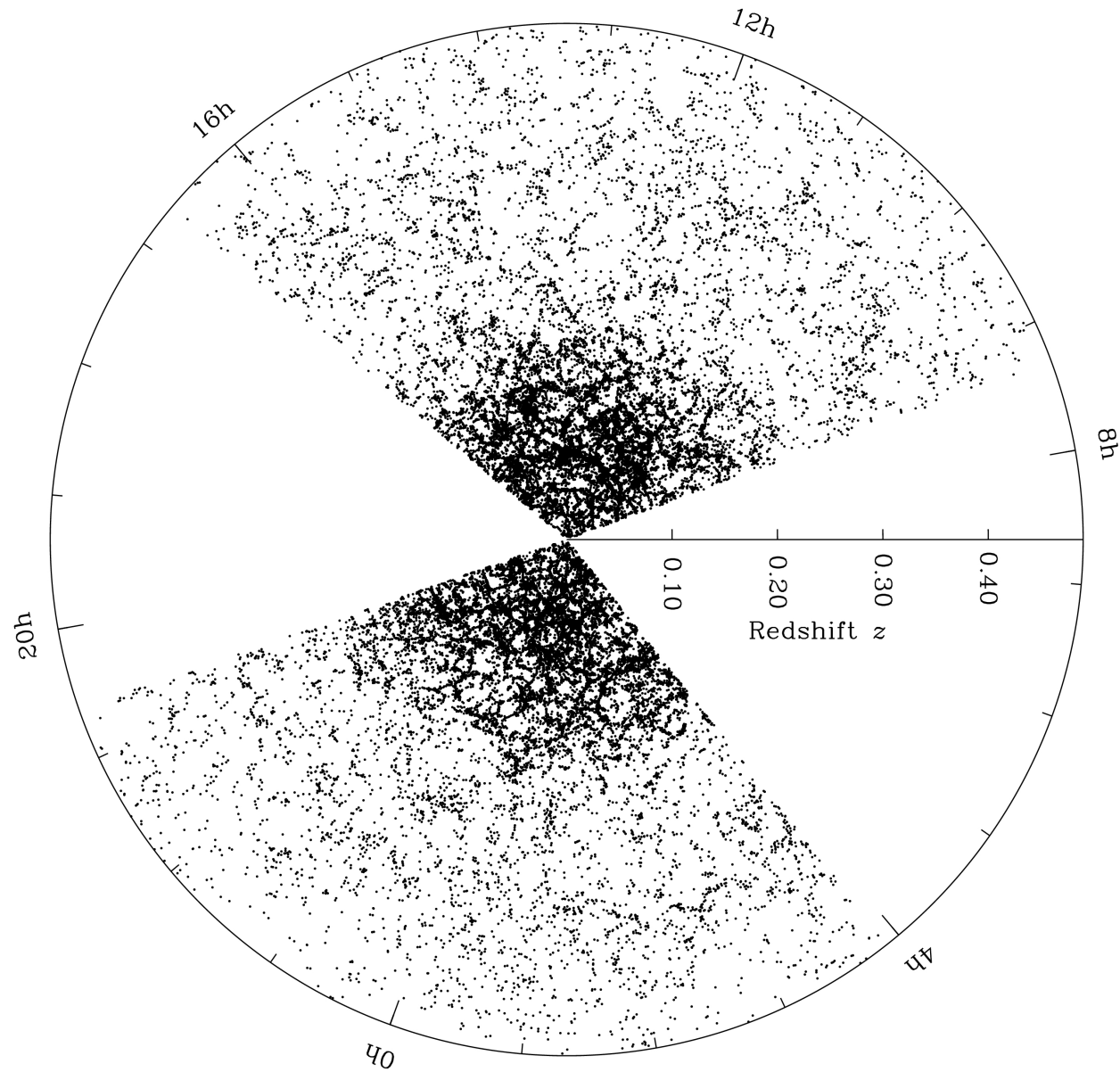


2dF Galaxy Redshift Survey



Sloan Digital Sky Survey (SDSS) Galaxy Redshift Map



Galaxy Luminosity Function

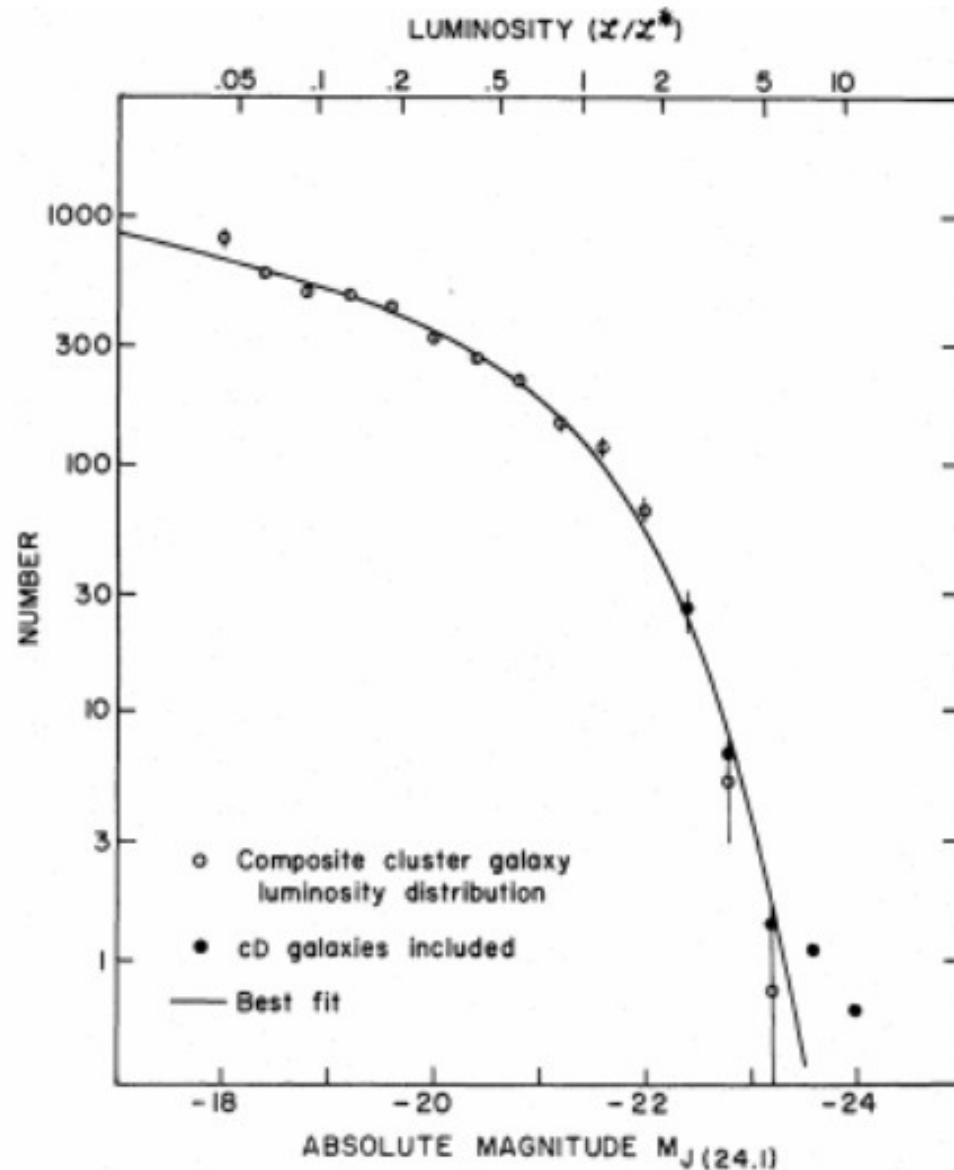
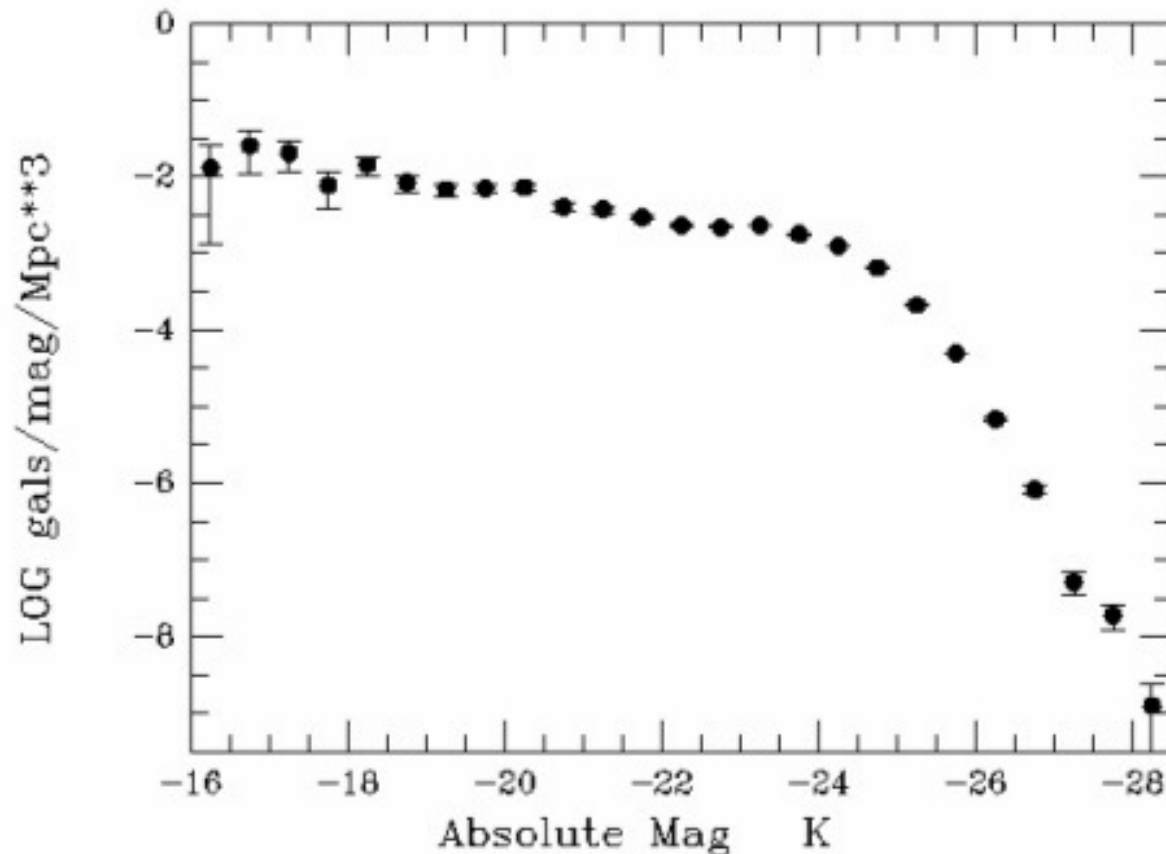


Figure shows the observed luminosity distribution of galaxies from a sample of 13 clusters in the local universe (data points). To this is fit the analytic expression called the Schechter luminosity function. The bottom X-axis is absolute magnitude in one of the wavelength bands. The top X-axis is the luminosity of the galaxies (magnitude converted to luminosity) normalized to the characteristic luminosity L^* . The Y-axis is the number of galaxies.

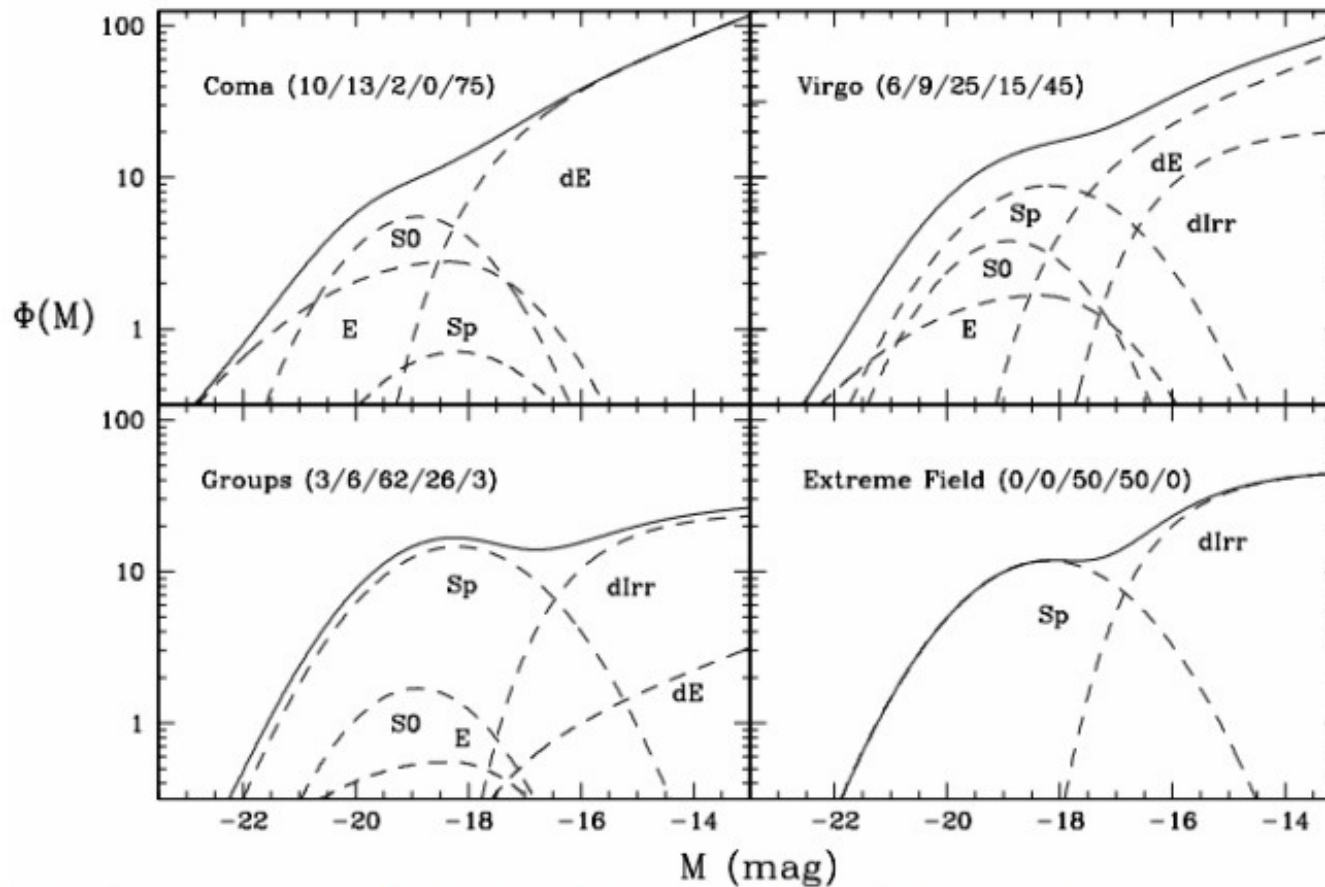
Figure taken from Schechter ApJ, 1976.

Galaxy Luminosity Function



The figure shows the distribution of luminosities (absolute magnitudes) of **galaxies in the field** taken from the 2MASS galaxy redshift survey. There are nearly 25,000 galaxies in the sample from which the plot was derived. In the Y-axis is the number of galaxies per Mpc³ per unit magnitude bin and along the X-axis is the absolute magnitude in the K band. © 2MASS

Galaxy Luminosity Function



The figure shows the observed luminosity distribution of galaxies in a range of environments from a typical galaxy over-density region like the Coma cluster, the dense Virgo cluster, to loose groups of galaxies and galaxies in the field. In each case the distribution of galaxies of the various Hubble morphology types are shown (dotted lines). The solid line is the total observed luminosity distribution. The numbers in parentheses are the percentages of Ellipticals, S0, Spirals, dIrr, dE. The inference to be drawn from the figure is that the relative mix of Hubble type changes with environment, and the sum of these gives the integrated LF.