

NGC 6946, a face-on spiral galaxy



Isaac Newton Telescope + Wide Field CCD Camera



A galaxy is a family of stars, held together by their mutual gravitational attraction, and with a distinct identity separating it from other galaxies. Most galaxies can be categorized into a number of broad morphological types. Spiral galaxies are disc-shaped, with a central bulge, from which spiral arms appear to wind outwards. In barred spirals, a bar of stars extends out from the bulge and the arms appear to be attached to the ends of the bar. Spiral galaxies contain very luminous young stars and significant amounts of interstellar material concentrated in the arms. NGC 6946 (Arp 29) is a face-on SAB(rs)cd galaxy in the constellation Cygnus. This classification refers to the presence of a small core with multiple well-defined arms (cd), with a poorly-developed bar across the middle (AB) and an inner confused ring (rs). Nearly twenty million light years from Earth, it is over seventy thousand light years across.

Credit: Simon Driver (St. Andrews University).