



EDGE-ON SPIRAL GALAXY NGC 4945

NGC 4945 is a spiral galaxy, 13 million light-years away, not too different from the Milky Way Galaxy in which we live. However, since it happens to be seen almost edge-on (under an angle of about 90°), the spiral structure is hardly discernible. This particular perspective is essentially the same as the inside-view we have of the Milky Way, because our Solar System is located near its central plane.

In both galaxies, there is interstellar gas (that emits its own light and also reflects the stellar light) and dust (that absorbs the stellar light). This imprints a high-contrast structure on the much smoother distribution of their tens of billions of stars. Most of the light recorded in this photo of NGC 4945 is from stars, while the dark lanes are areas where the dust blocks the light.

In those regions, where the density is sufficiently large, self-gravitation causes clouds of dust and gas to contract to the point where new stars will begin to form. This process takes hundreds of thousands to millions of years.

The photo was obtained with the Wide Field Imager (WFI), a 67 million pixel camera at the MPG/ESO 2.2-m Telescope at the ESO La Silla Observatory. The WFI was designed and built 1996–1998 as a joint project between the European Southern Observatory (ESO), the Max-Planck-Institut für Astronomie (MPA) in Heidelberg (Germany) and the Osservatorio Astronomico di Capodimonte (OAC) in Naples (Italy).

Technical information: This colour picture is assembled from five 900-sec R(red)-narrowband (shown in red), four 300-sec B(blue)-band (shown in green) and five 1000-second U(Ultraviolet)-band (shown in blue) exposures, obtained in January 1999. The field measures 18×22 arcmin. North is up and east is left.

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