Morphological Classification of Galaxies by *Euclid*

DWARFS

IRREGULARS

Galaxies come in a stunning variety of shapes and structures that reveal their origins and evolution. From smooth ellipticals to graceful spirals and chaotic irregulars, each form shows how galaxies grow, create stars, and interact over cosmic time. The Euclid space telescope, with its exceptional depth and sharpness, will capture these shapes for tens of millions of galaxies across one third of the sky over its six-year mission. This will help astronomers understand how a galaxy's structure relates to its mass, activity, and surroundings. Even the smallest and faintest dwarf galaxies are now visible in remarkable detail, offering key clues to how larger systems like our own galaxy, the Milky Way, formed.

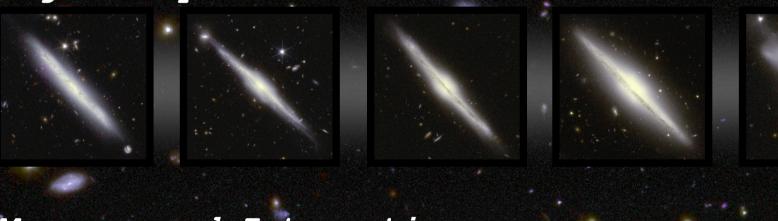
CREDIT: ESA/Euclid/Euclid Consortium/NASA, diagram by J.-C. Cuillandre, L. Quilley, F. Marleau

ELLIPTICALS

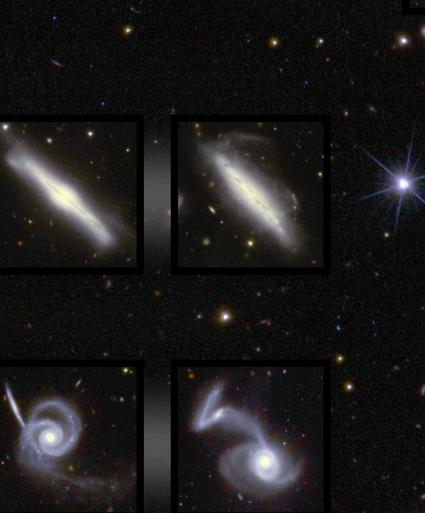


This Hubble-de Vaucouleurs classification of galaxies shows the classical morphological sequence from ellipticals (E, left) to lenticulars (S0) through spirals (S) to irregulars and dwarfs (right). The fork divides barred and unbarred spiral families: SA (unbarred), SAB (weakly barred) and SB (strongly barred), and lowercase letters "a" to "d" indicate progressively later spiral stages (tighter to looser arms). The trailing "m" (e.g., SAm) denotes Magellanic, very-late-type systems (patchy, often one-armed). The Milky Way is classified as an SBc galaxy. Below the main sequence are three auxiliary panels showing objects not represented in the fork: (1) edge-on galaxies with varying bulge-to-disk ratios and warps; (2) interactions and mergers illustrating gravitationally driven morphological change; and (3) the morphological diversity of dwarf galaxies.

Edge-on Spirals



Mergers and Interactions





Elliptical and Irregular Dwarfs

SBd

