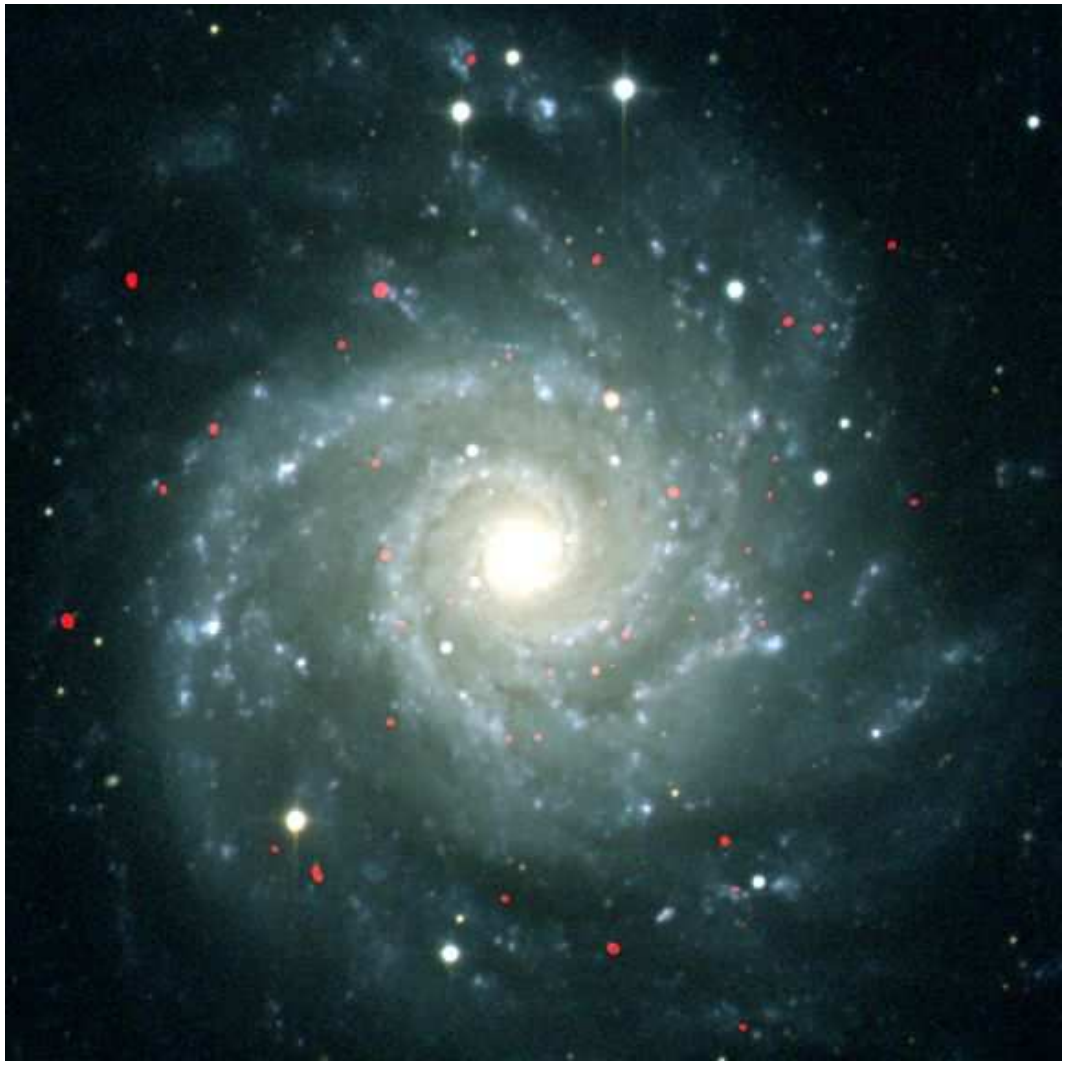
Lecture 24: Astronomy Picture of the Day



Luminous X-ray sources, likely harboring intermediate mass black holes (IMBH) -- black holes with masses 10,000 times or so greater than the Sun detected in the disk of galaxy M74 by Chandra X-ray satellite.

Sources marked in red are those detected by Chandra X-ray satellite Their X-ray luminosity is 10 to 1,000 times larger than that of "ordinary" x-ray binary stars which harbor a neutron star or stellar mass black hole. These X-ray sources likely harbor intermediate mass black holes

Properties and Evolution of Stars

See in class notes today

- How does the H-R diagram tell us L is related to T and R ?

- Origin of $L = (4 \pi R^2) (\sigma T^4)$: from definition of flux and Stefan-Boltzmann law!
- Comparing stars using $L = (4 \pi R^2) (\sigma T^4)$

- The huge range in L R T covered by star on H-R diagram: factor of 100 billion in L
- 2 reasons why stars have such a huge range in (L,R,T) : mass and age

Hertzsprung-Russell (H-R) diagram