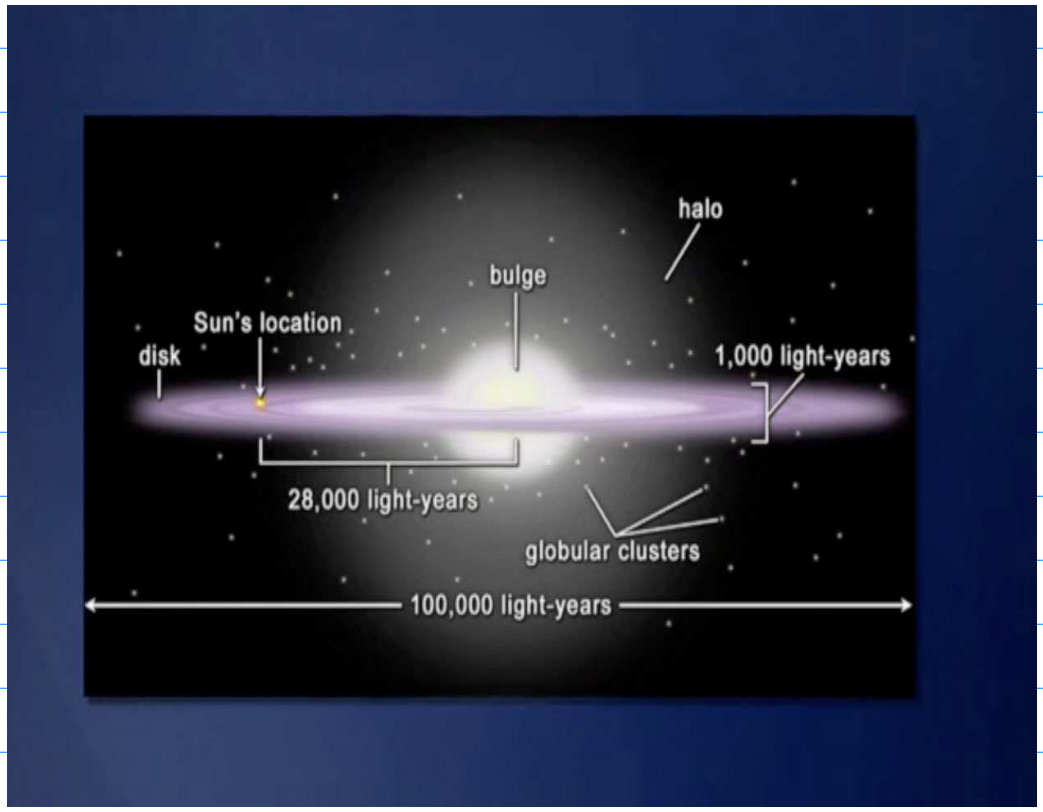
THE CONTENT OF THE MILKY WAY:



DISK: STARS, STAR CLUSTERS, GAS AND DUST

ASSOCIATIONS: CLUSTERS OF 10-100 YOUNG, HOT (O- AND B-CLASS) LUMINOUS STARS

OPEN CLUSTERS: CLUSTERS OF 100-1000 STARS, WHICH ARE ALSO HOT AND LUMINOUS

OPEN CLUSTER

M 45

HALO : STARS (COOLER LOWER MAIN SEQUENCE STARS), GLOBULAR CLUSTERS AND NO GAS AND DUST

BULGE: STARS ARE SIMILAR TO THOSE IN THE HALO, BUT THERE ARE ALSO SOME HOT AND LUMINOUS STARS.

THE MATERIAL IN THE DISK IS NOT DISTRIBUTED UNIFORMLY BUT IS CONCENTRATED IN SPIRAL ARMS. HOW DO WE KNOW THAT SINCE THE GAS AND THE DUST BLOCK OUR VIEW?

360° VIEW ALONG THE PLANE OF THE MILKY WAY

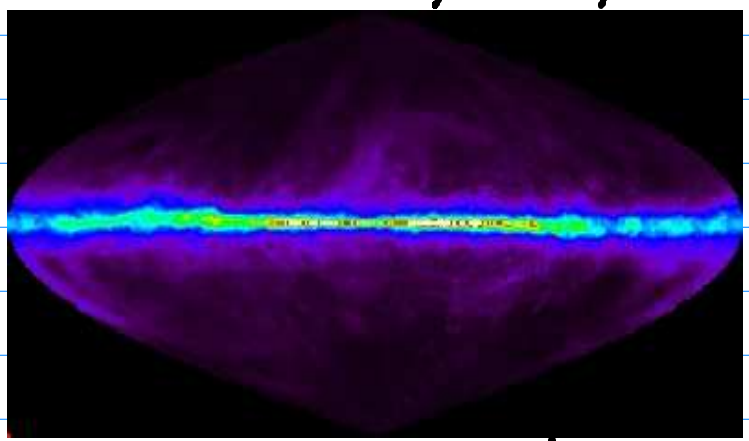
WHEN WE LOOK AT OTHER SPIRAL GALAXIES WE OBSERVE THAT THEIR SPIRAL ARMS ARE OUTLINED BY THE ASSOCIATIONS AND OPEN CLUSTERS OF HOT (AND THEREFORE BLUE) LUMINOUS STARS.

GALAXY M100

THEREFORE, ONE SHOULD LOOK FOR SUCH CLUSTERS OF HOT AND LUMINOUS STARS IN THE MILKY WAY.

RESULTS:

THE ASTRONOMERS CAN ALSO EXAMINE THE DISTRIBUTION OF GAS AND DUST IN THE MILKY WAY BY DETECTING THE RADIO WAVES EMITTED BY THE CLOUDS OF GAS AND DUST. RESULTS: GAS AND DUST ARE ALSO CONCENTRATED IN THE SPIRAL ARMS OF THE MILKY WAY:



ALL SKY VIEW AT 21 cm RADIO WAVES

PRODUCED BY COOL CLOUDS OF NEUTRAL HYDROGEN.

THE DISK STARS DIFFER FROM THOSE IN THE HALO AND THE BULGE BY THEIR CONTENT OF ELEMENTS HEAVIER THAN He (SO-CALLED METALS)

DISK STARS: POPULATION I STARS, WHICH HAVE HIGHER CONTENT OF METALS (2-3%)

HALO AND BULGE: POPULATION II STARS — THEY HAVE A LOWER CONCENTRATION OF METALS (0.1%)