



Expedition to the Expanding Universe – Hubble – Humason 1936 Redshift Magnitude Relationship

Our final step in recreating some of the important steps that lead to our understanding that the universe is expanding is to construct our own Hubble diagram.

Magnitude Redshift Relationship

1. For each galaxy cluster, determine the 5th brightest galaxy. Record the following information about each galaxy and complete the listed calculations.

Cluster	5th Brightest Galaxy RA, Dec	Magnitude	Redshift	Velocity $c(z)$	Log(velocity)
0085					
0779					
1132					
1650					
2034					
2199					
2670					

2. Insert an image of the completed graph.

Name _____

3. Finally, explain the graph. How is this graph evidence that the universe is expanding?