

CORONA BOREALIS SUPERCLUSTER

M. Kalinkov¹, I. Kuneva¹ and A. Kopylov²

¹Department of Astronomy, Bulgarian Academy of Sciences,

²Special Astrophysical Observatory, USSR Academy of Sciences

A detailed investigation of the CrB supercluster of galaxies was initiated. More than 50 new radial velocities were determined. The observations were carried out with the 6-m telescope.

Cluster A2001 may be regarded as a projection of two clusters at different distances (Ciardullo et al., 1983). A2004 is the same case. We show that A2067 is also a result of projection of two clusters.

The distance is determined with $H_0 = 100 \text{ km/s/Mpc}$ and $q_0 = 1$. It may be that the only galaxy with measured radial velocity in A2056 is a foreground galaxy. Eastern of this cluster is A2056E, which is in fact not an A-clusters, but Zw 165-49 (mc, pop. 166, MD).

Our results definitely show that the CrB supercluster consists of two superclusters - a near one (CrB-N) and a distant one (CrB-D).

In Table 1 velocity dispersions Table 1

for 6 clusters are given. For A2065 (namely CrB cluster), the velocity dispersion is taken from Spinrad (1977), and for A2069 - from Struble and Rood (1986).

Assuming $R_g = 1 \text{ Mpc}$ for each cluster, the virial masses are in the range $(0.2 \div 2.5) \cdot 10^{15} M_\odot$ with $\bar{M} = 1.0 \cdot 10^{15} M_\odot$. Then the mass of CrB-N or CrB-D will be about $7 \cdot 10^{15} M_\odot$.

The mean radial velocity of CrB-N is 22178 km/s and of CrB-D it is 35214 km/s. Formally estimating $\sigma(\text{CrB-N})=1736 \text{ km/s}$ and $\sigma(\text{CrB-D})=1266 \text{ km/s}$ and formally calculating the virial mass, we have $M(\text{CrB-N}) \approx 1.7 \cdot 10^{17} M_\odot$ for $R_g = 26 \text{ Mpc}$ and $M(\text{CrB-D}) \approx 7.0 \cdot 10^{16} M_\odot$ for $R_g = 20 \text{ Mpc}$.

A	σ_{corr} km s ⁻¹	A	σ_{corr} km s ⁻¹
2061	685	2069	565
2065	1070	2079	549
2067A	751	2092	272
2067B	532		

REFERENCES

Ciardullo, R. et al. 1983, *ApJ*, 273, 24.
 Spinrad, H. 1977, *Publ. Astron. Soc. Pacific*, 89, 116.
 Struble, M. F. and Rood, H. J. 1986 (preprint).