



# NATIONAL RADIO ASTRONOMY OBSERVATORY

EDGEMONT ROAD CHARLOTTESVILLE, VIRGINIA 22901  
TELEPHONE 804 296 0211 TWX 510 587 5482

21 October 1983

Prof. J.H.Oort,  
Sterrewacht Leiden,  
Postbus 9513,  
2300 RA Leiden,  
The Netherlands.

Dear Professor Oort,

Thank you for your letter and for the preprint of your review on superclusters. The VLA proposal on the 3C130 sources has been accepted, and will probably be scheduled late in December 1983. I will send you the maps as soon as they are available.

I have checked the catalogue of VLA observations made in 1982/1983, and find that none of the 4C sources you mention in your letter has been observed. (Older observations at the VLA are much harder to find out about).

While he was in Charlottesville this summer, Bob Sanders made an extensive study of relative alignments of resolved radio sources from many radio surveys, including a large sample of Bologna sources which has been mapped at the VLA. He found statistically significant parallelism on scales of several degrees in several samples. I think it would be interesting to follow this and your suggestion up with observations of significantly aligned pairs at the VLA, and would be pleased to take the observations. Perhaps a proposal from all three of us might be appropriate?

Bob Sanders is also the person who was making arrangements for the measurement of the redshift of 3C130A. I have yet to hear from him whether this has in fact been successful. I will write to him in parallel with this letter, but possibly it would be most efficient if you were to contact him directly about that.

With best wishes,

Yours sincerely,

Alan Bridle



# sterrewacht leiden

HUYGENS LABORATORIUM - WASSENAARSEWEG 78

Leiden, September 29, 1983.

Dr. A.H. Bridle,  
National Radio Astronomy Observatory,  
Charlottesville, VA 22901,  
U.S.A.

Dear Dr. Bridle,

By separate mail I have sent you a preprint of the review article on superclusters which you asked for. Some time ago I received a copy of your VLA application for observing the 3C130 sources. I am very much interested in this case because it indicates that parallelism may exist on a region of the order of 10 Mpc. If this is not just accidental, and if it is not the effect of gravitational lensing by the Perseus supercluster, it gives exceedingly important information on the formation of galaxies and their nuclei.

For this reason I have made a - very incomplete - search for other similar pairs. In particular I searched the list of radio sources given by Katgert-Merkelijn, Lari & Padrielli in *Astron. Astrophys. Suppl.* 40, 91. In their table there are three possible pairs with parallel radio structures and probably similar distances:

	$\alpha$ (1950)	$\delta$	pos. angle	type	separation		
4C 25.22	8 <sup>h</sup> 35 <sup>m</sup> 53 <sup>s</sup>	+25° 38'	4°	19.0	gal.	4.4 = 92 Mpc	Ar 43 (no) dem
29.31	8 40 07	+29 55	10	18.8	gal		
29.53	17 49 51	+29 51	6	20.0	red obj.	3.8 = 132 Mpc	(no)
26.54	18 04 51	+26 05	4	20.0	gal		
36.29	18 19 17	+36 01	52	17.4	QSO?	1.0 = 30 Mpc	(no)
35.44	18 20 50	+35 05	49	19.7	gal		

The apparent parallelism might be spurious; and they might not all three be genuine pairs.

Still, it may be worth while to get VLA or Westerbork observations for determining better structures; and, more important, to measure redshifts.

I wonder whether there would be an opportunity to do this.

In your proposal you mention that a redshift of 3C130A will be measured this fall. You would greatly oblige me by information on the result. Wouldn't it be important to get also a redshift for the G-component?

Jägers has meanwhile at Westerbork obtained a new map of this component, which confirms that at least the inner region is rather accurately parallel to that of the bright radio galaxy.

With best regards,

sincerely yours,

*J. A. Oort*