

VIII. *A Catalogue of North Polar Distances of some of the principal fixed Stars.* By John Pond, Esq. *Astronomer Royal, F. R. S.*

Read December 17, 1812.

THE catalogue which I have the honour of transmitting to the Society, is the result of a great number of observations made with the new Mural Circle, from the month of June last to the present time.

I hope at no very distant period to add considerably to its precision; but I trust that in its present state, it will not be thought unacceptable to astronomers, as from the experience I have now obtained of the instrument, I may safely pronounce that it far exceeds in accuracy any thing yet known in the history of practical astronomy.

In the fourth column I have annexed the degree of uncertainty, or maximum of error, to which I conceive the results are liable. These numbers not being derived from any strict mathematical process, must only be considered as indicating the opinion I have formed on the subject. When the observations themselves are laid before the Society, I shall have an opportunity of stating at length on what grounds this opinion was formed.

	Names of Stars.	N. P. Distances begin. 1813.	No. of Ob- servations.	Maximum of Error to which this Catalogue may probably be liable.
1	Polaris (Summer (Winter	$\begin{matrix} \circ & ' & '' \\ i & 41 & 22,07 \\ 1 & 41 & 21,47 \end{matrix} \}$	120	
2	β Ursæ Min.	15 4 48,95	50	0,50
3	β Cephei	20 5 30,30	20	0,50
4	α Ursæ Maj.	27 14 31,50	36	0,50
5	α Cephei	28 12 12,35	20	0,50
6	α Cassiop.	34 29 22,83	38	0,50
7	γ Ursæ Maj.	35 15 55,10	10	0,75
8	γ Draconis	38 29 3,73	68	0,25
9	η Ursæ Maj.	39 44 57,80	50	0,25
10	α Persei	40 48 52,37	26	0,50
11	Capella	44 12 20,06	37	0,50
12	α Cygni	45 22 57,19	40	0,50
13	α Lyræ	51 23 0,72	70	0,25
14	Castor	57 42 46,57	30	0,50
15	Pollux	61 31 56,57	31	0,50
16	β Tauri	61 33 43,51	23	0,50
17	α Andromedæ	61 56 29,61	35	0,50
18	α Cor. Bor.	62 38 55,70	53	0,50
19	α Arietis	67 25 36,76	44	
20	Arcturus	69 50 19,04	50	0,25
21	Aldebaran	73 52 35,18	30	0,50
22	β Leonis	74 22 57,24	24	0,50
23	α Herculis	75 23 13,97	23	0,50
24	α } Pegasi	75 47 51,77	20	0,50
25		γ } 75 51 21,00	25	0,50
26	Regulus	77 7 22,94	30	0,50
27	α Ophiuchi	77 17 39,66	37	
28	γ } Aquilæ	79 50 0,62	38	0,75
29		α } 81 36 58,88	45	
30		β } 84 3 4,09	12	1,0 †
31	α Orionis	82 38 16,11	21	0,50
32	α Serpentis	82 58 39,50	33	0,50
33	Procyon	84 18 15,03	20	0,50
34	α Ceti	86 39 0,75	18	1,0 †
35	α Aquarii	91 13 21,64	20	0,50
36	α Hydræ	97 51 11,30	10	0,75
37	Rigel	98 25 33,85	30	1,0 †
38	Spica Virginis	100 10 51,30	20	1,0
39	1 } α Capricor.	103 4 35,45	35	
40		2 } 103 6 52,32	28	
41	1 } α Libræ	105 12 39,26	10	
42		2 } 105 15 22,69	15	
43	Sirius	106 28 0,70	34	
44	Antares	116 0 16,63	36	

Total No. of Observations 1452.

* α Aquilæ, α Arietis, and α Ophiuchi are probably determined within a second of the truth, but I have met with some discordances in these stars which I do not comprehend; future observations will shew, whether these are accidental or arise from some periodical cause.

† Those stars marked † were determined by the quadrant, its error having been determined by comparison with the circle, by other stars having nearly the same declination.