

## CHAPTER IV

## RESULTS OF CALCULATION

IV.1 Results of calculation for the radio wave refractivity at the surface of the earth. Shown in Table No.6.

Table No.6

The results calculated from climatological data for radio wave refractivity at the surface of the earth during the period 1951-1970 of 46 stations.

Station	Month	T (°K)	RH %	$e_{s,mb}$	e mb	P mb	N
Chiang Rai	Jan.	292.8	78.8	23.085	18.191	1015.28	348.28
	Feb.	294.7	71.3	25.950	18.483	1012.40	346.02
	Mar.	297.6	66.2	30.923	20.471	1010.04	349.65
	Apr.	300.3	65.4	36.282	23.728	1008.23	360.13
	May.	300.8	75.1	37.358	28.056	1006.41	375.37
	Jun.	300.3	81.4	36.282	29.534	1004.99	381.68
	Jul.	299.9	82.7	35.440	29.309	1005.01	381.68
	Aug.	299.5	85.3	34.615	29.527	1005.32	383.34
	Sep.	299.5	83.8	34.615	29.007	1007.54	381.76
	Oct.	298.2	82.6	32.050	26.473	1011.93	376.98
	Nov.	296.0	81.6	28.086	22.918	1014.43	363.58
	Dec.	293.2	81.6	23.664	19.310	1016.01	352.75
Year.	297.7	78.0	31.109	24.265	1009.08	365.15	
Mae Hong - Son	Jan.	295.0	73.1	26.430	19.320	1013.98	349.59
	Feb.	296.2	65.3	28.428	18.563	1012.10	343.77
	Mar.	299.5	54.3	34.615	18.796	1009.60	339.80
	Apr.	302.9	53.8	42.187	22.697	1007.65	350.75
	May.	302.4	70.1	40.991	28.735	1005.88	375.58
	Jun.	300.6	80.9	36.929	29.872	1005.17	382.57
	Jul.	300.2	82.8	36.070	29.866	1005.13	383.34
	Aug.	300.0	85.2	35.649	30.373	1005.44	385.67
	Sep.	300.3	84.5	36.282	30.658	1006.85	387.22
	Oct.	299.9	82.5	35.440	29.238	1010.50	382.81
	Nov.	298.3	78.8	32.242	25.407	1012.83	370.05
	Dec.	297.6	76.9	27.413	21.081	1013.93	353.23
Year.	299.2	74.0	34.008	25.166	1009.09	366.27	

Station	Month	T (°K)	RH %	es mb	e mb	P mb	N
Chiang Mai	Jan	294.1	74.4	25.014	18.61	1014.36	347.65
	Feb	296.0	65.3	28.86	18.34	1011.78	343.77
	Mar	299.1	57.0	33.807	19.27	1009.39	342.22
	Apr	301.8	59.0	39.594	23.36	1007.55	354.63
	May	301.7	72.2	39.365	28.42	1005.98	375.58
	Jun	300.9	79.3	37.576	29.80	1004.97	381.79
	Jul	300.4	80.6	36.495	29.41	1005.08	381.02
	Aug	300.0	83.7	35.649	29.84	1005.31	383.79
	Sep	299.9	83.7	35.440	29.66	1007.14	383.34
	Oct	299.2	81.4	34.008	27.68	1011.09	377.91
	Nov	297.3	80.1	30.373	24.33	1013.19	367.05
	Dec	294.7	77.8	25.950	20.19	1014.75	353.86
	Year	298.8	74.5	33.212	24.74	1009.22	365.50
Mae Sariang	Jan	295.3	71.7	26.918	19.30	1013.92	349.20
	Feb	296.4	64.2	28.947	18.58	1012.47	343.77
	Mar	299.7	54.3	35.025	19.02	1009.93	340.66
	Apr	303.1	54.4	42.674	23.21	1007.85	352.30
	May	302.7	70.0	41.705	29.19	1006.24	377.14
	Jun	300.5	81.4	36.709	29.88	1005.44	383.34
	Jul	299.9	83.2	35.440	29.49	1005.42	382.57
	Aug	299m7	84.5	35.025	29.60	1005.70	383.34
	Sep	300.3	82.6	36.495	30.14	1006.83	384.90
	Oct	300.4	79.6	36.709	29.22	1010.35	381.79
	Nov	298.9	77.1	33.410	25.76	1012.92	370.93
	Dec	296.2	75.2	28.428	21.41	1013.55	356.92
	Year	299.4	73.2	34.411	25.19	1009.22	366.27

Station	Month	T (°K)	RH %	$\bar{e}_s$ mb mb	$\bar{e}$ mb	P mb	N
Lampang	Jan	295.0	70.1	26.430	18.53	1014.22	346.10
	Feb	297.2	62.2	30.191	18.78	1011.59	343.77
	Mar	300.3	54.9	36.282	19.92	1009.24	342.99
	Apr.	302.8	57.4	41.945	29.66	1007.56	378.69
	May	302.4	70.7	40.991	31.52	1005.96	386.45
	Jun	30.14	76.9	38.686	29.75	1005.12	381.02
	Jul	301.0	77.6	37.796	29.33	1005.09	380.24
	Aug	300.6	81.6	36.924	30.13	1005.36	384.12
	Sep	300.3	84.2	36.282	30.55	1007.01	386.45
	Oct	299.4	83.1	34.411	28.60	1011.26	389.55
	Nov	297.6	79.3	30.923	24.52	1013.59	367.82
	Dec	295.2	75.9	26.754	20.31	1014.63	353.86
	Year	299.4	72.8	36.495	26.57	1009.22	372.48
Nan	Jan	294.7	77.0	25.950	19.98	1014.66	353.08
	Feb	296.8	71.5	29.475	21.07	1011.94	353.86
	Mar	299.7	66.8	35.025	23.40	1009.50	358.51
	Apr	302.2	67.7	40.521	27.43	1007.65	370.93
	May	302.4	76.1	40.991	31.19	1006.11	385.67
	Jun	301.6	80.4	39.137	31.47	1004.85	388.00
	Jul	300.9	82.8	37.576	31.11	1005.10	387.22
	Aug	300.6	85.2	36.924	31.46	1005.14	389.55
	Sep	300.7	85.6	37.140	31.79	1007.07	391.10
	Oct	300.0	83.4	35.859	29.91	1011.20	385.67
	Nov.	298.0	81.2	31.860	25.87	1013.55	372.48
	Dec.	295.1	79.2	26.754	21.19	1015.15	357.74
	Year.	299.4	78.1	34.411	26.87	1009.33	373.26

Station	Month	T (°K)	RH %	es mb	e mb	P mb	N
Uttaradit	Jan	296.9	70.0	29.652	20.76	1013.19	353.08
	Feb	299.1	66.6	33.807	22.52	1011.56	356.18
	Mar	301.9	62.1	39.824	24.73	1009.61	360.84
	Apr	304.0	62.1	44.927	27.90	1008.13	370.15
	May	303.3	72.9	43.414	31.65	1006.50	385.67
	Jun	301.8	81.0	39.594	32.07	1005.74	390.33
	Jul	301.4	81.8	38.686	31.65	1005.91	388.78
	Aug	301.1	84.5	38.017	32.12	1005.93	391.10
	Sep	300.9	84.0	37.575	31.56	1007.31	389.55
	Oct	300.7	80.9	34.411	27.84	1010.89	375.58
	Nov	299.3	76.9	34.209	26.31	1013.01	372.48
	Dec	297.2	72.6	30.191	21.92	1014.33	357.74
	Year	300.6	74.6	36.924	27.55	1009.40	374.03
Phrae	Jan	295.3	72.0	26.918	19.38	1013.20	349.20
	Feb	297.5	65.2	30.789	20.04	1010.95	348.21
	Mar	300.6	58.8	36.924	21.71	1008.78	349.98
	Apr	303.1	60.0	42.674	25.60	1007.25	361.89
	May	302.5	70.9	41.228	29.23	1005.59	377.19
	Jun	301.2	77.8	38.462	29.92	994.71	379.37
	Jul	300.8	79.2	37.358	29.59	1004.66	381.25
	Aug	300.4	82.7	36.495	30.18	1004.88	384.12
	Sep	300.3	83.9	36.282	30.44	1006.35	386.04
	Oct.	299.9	82.4	35.440	29.20	1010.26	382.59
	Nov.	298.1	79.5	31.860	25.33	1012.47	369.95
	Dec.	295.6	75.8	27.247	20.65	1013.52	354.28
	Year.	299.6	74.0	34.820	25.77	1008.55	368.39

Station	Month	T (°K)	RH %	$\bar{e}_s$ mb	$\bar{e}$ mb	P mb	N
Tak	Jan	296.4	64.6	28.773	18.59	1012.95	344.54
	Feb	299.7	52.1	35.025	18.25	1010.42	337.56
	Mar	303.4	45.0	43.414	15.49	1008.58	320.77
	Apr.	304.9	52.4	47.283	24.78	1007.11	355.81
	May	303.3	68.5	43.919	30.08	1005.47	379.30
	Jun	301.5	73.1	38.911	28.44	1004.90	375.42
	Jul	301.5	72.1	38.911	28.05	1004.98	373.83
	Aug	301.3	73.6	38.426	28.28	1005.08	375.13
	Sep	300.8	77.8	37.140	28.89	1006.39	378.81
	Oct.	299.9	32.3	35.440	29.17	1010.18	383.60
	Nov	298.4	78.4	32.434	25.43	1012.23	369.83
	Dec.	296.3	73.0	28.600	20.88	1013.14	354.95
	Year	300.6	67.7	36.709	24.85	1008.45	363.17
Phitsanulok	Jan	297.7	69.4	31.109	21.59	1013.61	355.14
	Feb	299.9	67.6	35.440	23.96	1011.44	361.15
	Mar	302.4	64.9	40.991	26.60	1009.49	367.62
	Apr	304.1	64.5	45.442	29.31	1008.00	375.52
	May	303.3	73.8	43.166	31.86	1006.54	386.80
	Jun	302.1	79.9	40.521	32.38	1005.90	390.81
	Jul	301.5	81.3	38.911	31.63	1006.40	387.82
	Aug	301.3	82.9	38.462	31.88	1006.06	390.19
	Sep	301.2	83.5	38.239	31.93	1007.37	390.90
	Oct	301.1	80.4	38.017	30.57	1010.78	386.36
	Nov	299.8	75.9	35.232	26.74	1012.82	373.20
	Dec	297.7	71.8	31.109	22.34	1014.05	358.41
	Year	301.0	74.7	37.796	28.23	1009.34	376.52

Station	Month	T (°K)	RH %	e <sub>s</sub> mb	e mb	P mb	N
Mae Sot	Jan	296.1	68.3	28.256	19.30	1013.07	347.66
	Feb	298.0	62.6	31.671	19.83	1011.21	346.67
	Mar	300.6	56.1	36.924	20.71	1009.55	346.16
	Apr	302.8	59.3	41.945	24.87	1008.16	359.61
	May	302.0	73.3	40.055	29.36	1006.46	378.77
	Jun	300.1	83.4	35.859	29.91	1006.06	384.11
	Jul	299.5	85.2	34.615	29.49	1006.36	383.46
	Aug	299.3	86.4	34.209	29.56	1006.38	384.12
	Sep	299.9	84.5	35.440	29.95	1007.21	384.91
	Oct.	299.9	80.7	35.440	28.60	1009.90	380.01
	Nov.	298.5	75.4	32.627	24.60	1011.85	366.10
	Dec.	296.1	72.2	28.256	20.40	1013.23	352.39
Year	299.4	74.0	34.411	25.46	1009.12	367.56	
Phetchaburi	Jan	296.3	62.6	28.600	17.90	1013.80	341.44
	Feb	298.9	60.3	33.410	20.15	1011.84	346.88
	Mar	301.6	60.0	39.137	23.48	1009.88	356.19
	Apr	303.1	62.1	42.919	26.65	1008.40	366.27
	May	302.5	72.5	41.228	29.89	1006.62	380.15
	Jun	301.2	78.3	38.239	29.94	1005.91	382.34
	Jul	300.6	80.9	36.924	29.87	1006.18	383.13
	Aug	300.3	83.4	36.282	30.26	1005.97	385.20
	Sep	300.4	83.9	36.495	30.62	1007.12	386.81
	Oct	300.1	78.1	35.859	28.01	1010.58	377.40
	Nov	298.3	72.2	32.242	23.28	1013.01	361.17
	Dec	296.3	65.2	28.600	18.65	1013.88	344.59
Year.	300.0	71.6	35.859	25.68	1009.43	367.61	

Station	Month	T (°K)	RH %	e <sub>s</sub> mb	e mb	P mb	N
Phumipol Dam	Jan	296.8	60.2	29.475	17.74	1013.33	340.11
	Feb	299.5	50.7	34.615	17.55	1010.94	335.23
	Mar	302.4	42.7	40.991	17.59	1008.27	330.53
	Apr.	304.5	47.6	46.223	22.00	1006.63	345.10
	May	303.0	65.6	42.430	27.83	1006.41	370.89
	Jun	301.5	70.0	38.911	27.24	1005.01	354.63
	Jul	301.1	70.9	38.017	26.95	1004.87	370.15
	Aug	300.9	71.9	37.575	27.01	1004.67	370.45
	Sep	300.4	75.9	37.495	28.38	1006.41	377.36
	Oct	299.8	77.4	35.232	27.27	1010.12	374.71
	Nov	298.7	72.5	33.016	23.94	1012.47	363.17
	Dec	297.0	68.6	29.831	20.46	1013.51	351.39
	Year	300.5	64.6	36.709	23.71	1008.55	358.45
Loei	Jan	293.9	64.7	24.700	15.98	1014.75	336.98
	Feb	296.6	60.4	29.122	17.59	1012.31	339.49
	Mar	299.7	58.4	35.025	20.45	1010.29	346.87
	Apr	301.4	63.2	38.686	24.45	1008.73	360.17
	May	301.4	74.4	38.686	28.78	1006.79	377.47
	Jun	301.0	77.5	37.796	29.29	1005.53	379.90
	Jul	300.7	77.1	37.140	28.63	1005.26	377.61
	Aug	300.3	80.0	36.282	29.03	1005.40	379.96
	Sep	299.8	82.6	35.232	29.10	1007.11	381.53
	Oct	298.8	78.1	33.212	25.94	1011.50	371.14
	Nov	296.8	73.4	29.475	21.63	1013.72	356.69
	Dec	294.5	69.2	25.635	17.74	1014.72	343.72
	Year	298.7	71.6	33.016	23.64	1009.68	360.84

Station	Month	T °K	RH %	e <sub>s</sub> mb	e mb	P mb	N
Udon Thani	Jan	295.2	71.1	26.754	19.02	1014.83	348.42
	Feb	297.8	68.4	31.295	21.41	1012.35	353.91
	Mar	300.9	65.8	37.576	24.73	1010.00	362.42
	Apr	302.9	67.8	42.187	28.60	1008.36	374.68
	May	302.5	77.5	41.228	31.95	1006.67	388.56
	Jun	301.7	81.3	39.365	32.00	1005.41	389.55
	Jul	301.5	81.5	38.911	31.71	1005.28	388.94
	Aug	301.0	83.7	37.796	31.64	1005.22	389.55
	Sep	300.6	84.3	36.924	31.13	1007.04	388.56
	Oct	299.9	78.4	35.440	27.78	1011.26	377.14
	Nov	298.0	75.0	31.671	23.75	1013.54	363.94
	Dec. Year	295.4 299.8	72.6 75.6	27.082 35.440	19.66 26.79	1015.05 1009.58	350.74 372.57
Nakhon Phanom	Jan	294.6	69.2	25.792	17.85	1015.14	344.16
	Feb	297.8	67.8	29.475	19.98	1013.06	348.07
	Mar	299.9	66.2	35.440	23.46	1010.52	358.51
	Apr	301.9	68.5	39.824	27.28	1008.73	371.00
	May	301.7	78.4	39.365	30.86	1006.85	385.52
	Jun	300.8	84.7	37.358	31.64	1005.68	389.97
	Jul	300.6	85.0	36.924	31.39	1005.32	389.19
	Aug	300.1	86.7	35.859	31.09	1005.33	388.81
	Sep	300.0	85.2	35.649	30.37	1007.01	386.43
	Oct	299.1	78.2	33.807	26.44	1011.22	372.67
	Nov	297.3	73.5	30.373	22.32	1013.68	358.84
	Dec Year	295.0 299.0	72.7 76.4	26.430 33.608	19.21 25.68	1014.94 1009.79	349.20 369.29



Station	Month	T °K	RH %	e <sub>s</sub> mb	e mb	P mb	N
Sakon Nakhon	Jan	294.5	64.2	25.635	16.46	1015.84	338.51
	Feb	296.9	63.6	29.652	18.86	1013.75	344.82
	Mar	300.1	62.8	35.859	22.52	1011.23	354.82
	Apr	302.1	64.9	40.287	26.15	1009.54	366.27
	May	301.8	76.3	39.594	30.21	1007.62	382.88
	Jun.	30.10	80.0	37.796	30.24	1006.30	384.01
	Jul	301.1	79.9	38.017	30.38	1006.07	384.36
	Aug	300.6	82.2	36.924	30.35	1006.09	385.09
	Sep	300.1	81.9	35.859	29.37	1007.81	382.33
	Oct	299.2	74.2	34.008	25.23	1012.08	367.69
	Nov	297.1	68.6	30.011	20.65	1014.43	352.28
	Dec	294.7	67.6	25.950	17.45	1015.73	342.46
	Year	299.1	72.2	33.807	24.41	1010.54	364.03
Mukkahan	Jan	294.8	64.9	26.109	16.94	1015.23	339.99
	Feb	297.3	62.6	30.373	19.01	1012.96	344.68
	Mar	300.8	60.3	37.358	22.53	1010.64	353.67
	Apr	302.5	62.5	41.228	25.77	1008.86	363.92
	May	302.2	73.1	40.521	29.62	1007.06	376.66
	Jun	301.3	78.1	38.462	30.04	1005.85	382.57
	July	300.9	79.1	37.576	29.72	1005.74	381.90
	Aug	300.7	81.8	37.140	30.38	1005.73	384.95
	Sep	300.2	82.2	36.070	29.65	1007.36	383.20
	Oct	299.2	75.0	34.008	25.51	1011.19	368.62
	Nov	297.3	70.0	30.373	21.26	1013.65	354.36
	Dec	295.1	68.0	26.592	18.08	1015.24	344.46
	Year	299.4	71.5	34.411	24.60	1009.96	364.20

Station	month	T °K	RH %	$\bar{e}_s$ mb	$\bar{e}$ mb	P mb	N
Khon Kaen	Jan	296.2	64.3	28.428	18.28	1014.15	343.46
	Feb	298.7	62.8	33.016	20.73	1011.75	349.57
	Mar	301.8	61.2	39.594	24.23	1009.60	358.89
	Apr	303.2	63.4	42.674	27.06	1008.06	367.87
	May	302.8	72.4	41.945	30.37	1006.37	381.54
	Jan	301.6	76.4	39.137	29.90	1005.28	381.35
	Jul	301.2	77.7	38.239	29.71	1005.18	381.21
	Aug	301.1	80.1	38.017	30.45	1005.14	384.10
	Sep	300.6	81.6	36.924	30.13	1006.77	384.36
	Oct	299.7	76.7	35.025	26.86	1010.69	370.43
	Nov	298.2	70.5	32.242	22.73	1012.94	359.01
	Dec	296.1	66.6	28.256	18.82	1014.35	345.96
	Year	300.1	71.1	35.859	25.50	1009.19	366.64
Roi Et	Jan	296.2	65.8	28.428	18.71	1013.98	345.25
	Feb	298.6	63.2	32.821	20.74	1011.55	349.70
	Mar	301.4	62.2	38.686	24.06	1009.68	358.16
	Apr	302.7	65.1	41.705	27.15	1008.26	369.08
	May	302.5	74.2	41.228	30.59	1006.48	382.97
	Jun	301.7	77.7	39.365	30.59	1005.43	384.05
	Jul	301.3	78.3	38.462	30.12	1005.34	382.77
	Aug	300.9	80.8	37.576	30.36	1005.26	384.41
	Sep	300.4	82.7	36.495	30.18	1006.82	384.92
	Oct	299.6	77.4	34.820	26.95	1010.56	373.82
	Nov	298.0	72.6	31.671	22.99	1012.78	360.36
	Dec	296.2	68.3	28.428	19.42	1014.21	348.33
	Year	300.0	72.4	35.649	25.81	1009.20	368.09

Station	month	T (°K)	RH %	e <sup>s</sup> mb	e mb	P mb	N
Ubon Ratchathani	Jan	297.1	66.8	30.011	20.05	1013.23	349.42
	Feb	299.2	64.2	34.008	21.83	1011.30	353.32
	Mar	301.8	63.5	39.594	25.14	1009.53	362.61
	Apr	303.0	67.7	42.430	28.73	1008.20	374.99
	May	302.5	76.5	41.228	31.54	1006.70	386.90
	Jun	301.6	79.9	39.137	31.27	1005.90	387.13
	Jul	301.1	81.1	38.017	30.83	1005.85	386.17
	Aug	300.9	82.6	37.576	31.04	1005.66	387.31
	Sep	300.5	83.6	36.709	30.69	1006.84	386.85
	Oct	299.9	77.6	35.440	27.50	1009.86	375.44
	Nov	298.6	72.4	32.821	23.76	1012.01	362.47
	Dec	297.0	69.7	29.831	20.79	1013.23	352.71
	Year	300.3	73.8	36.282	26.78	1009.03	371.57
Surin	Jan	296.6	64.6	29.122	18.81	1013.73	345.05
	Feb	299.0	62.0	33.608	20.84	1011.85	349.60
	Mar	301.6	61.5	39.137	24.07	1010.07	358.65
	Apr	302.6	65.7	41.466	27.24	1008.80	369.75
	May	302.1	75.3	40.287	30.34	1007.21	382.79
	Jun	301.4	79.0	38.686	30.56	1006.39	384.68
	Jul	301.0	79.8	37.796	30.16	1006.29	383.68
	Aug	300.7	81.4	39.365	32.04	1006.41	391.99
	Sep	300.3	83.4	36.282	30.26	1007.50	385.59
	Oct	299.6	80.4	34.820	28.00	1010.58	378.17
	Nov	298.1	75.1	31.860	23.93	1012.49	364.07
	Dec	296.4	69.4	28.773	19.97	1013.77	350.25
	Year	300.0	73.1	35.649	26.06	1009.59	369.22

Station	Month	T °K	RH %	es mb	e mb	P mb	N
Nakhon Ratchasima	Jan	296.4	68.9	28.773	19.82	1014.14	349.72
	Feb	299.3	65.7	34.209	22.48	1011.91	356.03
	Mar	301.9	66.3	39.824	26.40	1010.13	367.77
	Apr	302.9	69.2	42.187	29.19	1008.81	377.20
	May	302.4	77.2	40.991	31.65	1007.17	387.64
	Jun	301.8	76.9	39.594	30.45	1006.35	383.54
	Jul	301.2	78.0	38.239	29.83	1006.40	381.79
	Aug	301.0	79.1	37.796	29.90	1006.38	382.63
	Sep	300.4	83.4	36.495	30.44	1007.59	386.19
	Oct	299.4	82.2	34.411	28.29	1010.90	379.81
	Nov	297.7	77.6	31.109	24.14	1013.02	365.73
	Dec	296.0	73.1	28.086	20.53	1014.37	353.39
	Year	300.0	74.8	35.649	26.67	1009.76	371.80
Chaiyaphum	Jan	296.6	52.3	29.112	15.23	1013.92	329.89
	Feb	298.9	51.8	33.410	17.31	1012.03	335.06
	Mar	301.6	53.0	39.137	20.74	1009.62	344.87
	Apr	302.7	57.5	41.705	23.98	1008.31	356.18
	May	302.4	67.7	40.991	27.75	1006.42	371.53
	Jun	301.4	71.6	38.686	27.70	1005.64	372.73
	Jul	300.8	73.8	37.358	27.57	1005.48	373.12
	Aug	300.4	76.3	36.495	27.85	1005.60	374.94
	Sep	300.0	78.6	35.649	28.02	1006.88	376.65
	Oct	299.6	70.7	34.820	24.26	1010.57	364.13
	Nov	298.3	62.1	32.242	20.02	1012.78	347.44
	Dec	296.6	56.4	29.122	16.42	1013.73	334.89
	Year	299.9	64.3	35.440	22.79	1009.25	355.73

Station	Month	T °K	RH %	e <sub>s</sub> mb	e mb	P mb	N
Nakhon Sawan	Jan	297.9	63.8	31.483	20.08	1013.78	348.54
	Feb	300.7	62.4	37.140	23.18	1011.64	356.76
	Mar	303.2	60.7	42.919	26.05	1009.90	364.24
	Apr	304.4	62.0	45.961	28.50	1008.53	371.91
	May	303.5	69.8	43.663	30.48	1006.81	380.94
	Jun	302.4	74.1	40.991	30.37	1006.07	382.13
	Jul	30.19	76.0	39.824	30.27	1006.21	382.60
	Aug	301.5	78.6	38.911	30.58	1006.23	384.55
	Sep	301.0	81.1	37.796	30.65	1007.46	385.67
	Oct	300.6	79.7	36.924	29.43	1010.74	382.49
	Nov	299.3	73.6	34.209	25.18	1012.77	367.50
	Dec	297.4	68.1	30.555	20.81	1014.06	352.42
	Year	301.2	70.9	38.239	27.11	1009.52	371.63
Lop Buri	Jan	298.8	59.8	33.212	19.86	1013.21	346.16
	Feb	301.2	63.2	38.239	24.17	1011.47	360.03
	Mar	303.1	64.9	42.674	27.70	1010.10	370.93
	Apr	303.9	66.6	44.672	29.75	1008.82	377.83
	May	303.0	74.3	42.403	31.51	1007.18	386.05
	Jun	301.9	76.9	39.824	30.62	1006.59	384.13
	Jul	301.3	79.2	38.462	30.46	1006.66	384.51
	Aug	301.1	80.8	38.017	30.72	1006.65	385.91
	Sep	300.8	83.1	37.358	31.04	1007.63	388.01
	Oct	300.5	78.7	36.709	28.89	1010.44	380.35
	Nov	299.4	71.2	34.411	24.50	1012.28	364.38
	Dec	298.4	62.9	32.434	20.40	1013.35	349.04
	Year	301.1	71.8	38.017	27.30	1009.53	372.57

Station	Month	T °K	RH %	$\bar{e}_s$ mb	$\bar{e}$ mb	P mb	N
Aranyaphathet	Jan	298.1	63.9	31.860	20.36	1013.49	349.34
	Feb	300.6	64.3	36.924	23.74	1011.76	359.25
	Mar	302.7	66.2	41.705	27.61	1010.33	371.48
	Apr	303.2	70.1	42.919	30.09	1009.26	380.46
	May	302.6	77.9	41.466	32.30	1007.70	398.44
	Jun	301.7	80.5	39.365	31.69	1007.16	389.00
	Jul	300.9	82.6	37.576	31.04	1007.20	387.70
	Aug	300.8	83.6	37.358	31.23	1007.08	388.64
	Sep	300.7	84.6	37.140	31.42	1007.97	389.83
	Oct	300.3	81.5	36.282	29.57	1010.55	383.52
	Nov	299.0	75.2	33.608	25.27	1012.28	368.24
	Dec	297.5	70.0	30.739	21.52	1013.49	355.10
	Year	300.7	75.0	37.140	27.86	1009.86	375.62
Chon Buri	Jan	298.5	68.2	32.627	22.25	1012.62	356.46
	Feb	300.2	72.5	36.070	26.15	1011.38	369.74
	Mar	301.7	72.7	39.365	28.62	1010.15	377.18
	Apr	302.8	72.7	41.945	30.49	1008.82	382.68
	May	302.3	76.3	40.755	31.10	1007.17	385.53
	Jun	302.9	75.1	42.189	31.68	1006.82	387.97
	Jul	301.4	76.7	38.686	29.72	1006.97	381.18
	Aug	301.2	78.0	38.239	29.83	1006.96	382.14
	Sep	300.9	80.7	37.576	30.32	1007.63	384.87
	Oct	300.4	81.7	36.709	29.99	1010.09	384.98
	Nov	299.7	74.8	35.025	25.92	1011.67	369.65
	Dec	298.7	68.9	33.016	22.75	1012.45	358.19
	Year	300.8	74.9	37.358	27.98	1009.39	375.83

Station	Month	T °K	RH %	es mb	e mb	P mb	N
Suphanburi	Jan	298.4	64.0	32.434	20.76	1014.32	350.80
	Feb	300.6	64.9	37.576	24.39	1012.48	362.12
	Mar	302.9	62.3	42.187	26.28	1010.83	365.88
	Apr	304.2	61.6	45.442	27.99	1009.48	370.41
	May	303.3	69.1	43.166	29.83	1007.69	378.86 <sup>s</sup>
	Jun	302.6	70.2	41.466	29.11	1007.32	376.98
	Jul	301.9	73.0	39.824	29.07	1007.25	377.95
	Aug	301.7	75.1	39.365	29.56	1007.36	380.24
	Sep	301.2	79.7	38.239	30.48	1008.22	385.16
	Oct	300.7	79.7	37.140	29.60	1011.33	383.18
	Nov	299.4	74.8	34.411	25.74	1013.15	369.77
	Dec	297.9	68.1	31.483	21.44	1014.14	354.35
	Year	301.2	70.2	38.239	26.84	1010.30	370.72
Prachinburi	Jan	298.5	60.1	32.627	19.61	1012.90	345.47
	Feb	300.7	63.5	37.140	23.58	1011.40	358.51
	Mar	302.4	65.9	40.991	27.01	1010.08	369.45
	Apr	303.2	69.3	42.919	30.32	1008.94	381.33
	May	302.5	76.9	41.228	31.70	1007.13	387.66
	Jun	301.7	79.5	39.365	31.30	1006.76	387.30
	Jul	301.2	81.1	38.239	31.01	1006.71	386.95
	Aug	301.1	81.8	38.017	31.10	1006.69	387.22
	Sep	300.9	82.5	37.576	31.00	1007.48	387.62
	Oct	300.9	77.5	37.576	29.12	1010.07	380.54
	Nov	300.0	68.2	35.859	24.46	1011.74	363.15
	Dec	298.5	61.3	32.627	20.00	1012.56	347.01
	Year	301.0	72.3	37.796	27.33	1009.37	372.48

Station	Month	T °K	RH %	es mb	e mb	P mb	N
Kanchanaburi							
	Jan	297.9	61.8	31.483	19.46	1013.24	345.79
	Feb	300.6	60.1	36.924	22.19	1011.65	352.82
	Mar	303.0	56.3	42.430	23.89	1010.04	355.80
	Apr	304.2	58.7	45.442	26.67	1008.95	364.95
	May	303.1	70.0	42.674	29.87	1007.49	379.30
	Jun	302.0	72.1	40.055	28.88	1007.42	377.14
	Jul	301.5	73.1	38.911	28.44	1007.19	376.01
	Aug	301.4	73.9	38.686	28.59	1007.13	376.77
	Sep	301.0	77.0	37.796	29.10	1007.81	379.71
	Oct	300.0	79.5	35.649	28.34	1010.54	378.93
	Nov	298.8	74.5	33.212	24.74	1012.49	366.38
	Dec	297.3	68.5	30.373	20.81	1013.36	352.38
	Year	300.9	68.8	37.576	25.85	1009.78	366.98
Bangkok							
	Jan	299.2	72.7	34.008	24.72	1012.68	365.50
	Feb	300.8	76.4	37.358	28.54	1011.19	378.60
	Mar	302.2	76.6	40.521	31.04	1009.98	388.85
	Apr	303.2	76.6	42.919	32.88	1008.68	391.66
	May	302.7	80.2	41.705	33.45	1006.94	394.40
	Jun	301.9	80.1	39.824	31.90	1006.53	389.35
	Jul	301.5	81.1	38.911	31.56	1006.66	388.68
	Aug	301.3	82.3	38.642	31.80	1006.69	390.33
	Sep	301.0	84.5	37.796	31.94	1007.48	391.32
	Oct	300.8	84.0	37.358	31.38	1009.88	389.98
	Nov	300.1	79.9	35.859	28.65	1011.56	380.31
	Dec	298.9	74.9	33.410	25.02	1012.52	367.40
	Year	301.1	79.1	38.017	30.07	1009.23	383.90



Station	Month	T °K	RH %	e <sub>s</sub> mb	e <sub>F</sub> mb	P mb	N
Sattahip	Jan	301.1	69.4	38.017	26.38	1012.98	369.68
	Feb	301.9	74.6	39.824	29.71	1011.98	381.79
	Mar	303.2	75.9	42.919	32.58	1011.05	391.03
	Apr	303.9	75.8	44.672	33.86	1009.80	394.70
	May	303.0	78.3	42.430	33.22	1008.11	393.24
	Jun	302.7	76.2	41.705	31.78	1007.83	387.82
	Jul	302.2	77.6	40.521	31.44	1007.92	387.33
	Aug	302.2	77.6	40.521	31.44	1007.90	387.33
	Sep	301.7	80.3	39.365	31.61	1008.53	388.98
	Oct	301.1	83.0	38.017	31.55	1010.40	390.31
	Nov	300.7	76.6	37.140	28.45	1011.69	378.52
	Dec	300.4	70.9	36.709	26.03	1012.78	369.28
	Year	302.0	76.4	40.055	30.60	1010.08	384.78
Chanthaburi	Jan	298.8	72.7	33.212	24.15	1012.50	363.90
	Feb	299.8	78.3	35.232	27.59	1011.44	376.36
	Mar	300.6	80.9	36.924	29.87	1010.58	384.27
	Apr	301.4	82.0	38.686	31.72	1009.21	390.17
	May	301.1	86.3	38.017	32.81	1007.74	394.79
	Jun	300.6	86.3	36.924	31.87	1007.52	391.74
	Jul	300.3	87.3	36.282	31.67	1007.51	391.45
	Aug	300.2	88.1	36.070	31.78	1007.54	392.06
	Sep	300.1	89.2	35.859	31.99	1008.08	393.24
	Oct	300.2	85.9	36.070	30.98	1009.85	389.37
	Nov	299.5	78.5	34.615	27.17	1011.16	375.06
	Dec	298.6	72.9	32.821	23.93	1012.05	363.17
	Year	300.1	82.5	35.859	29.58	1009.60	383.67

Station	Month	T °K	RH %	e <sub>s</sub> mb	e mb	P mb	N
Khlung Yai	Jan	298.8	70.1	33.212	23.28	1012.43	360.27
	Feb	299.7	75.2	35.025	26.34	1011.91	371.46
	Mar	300.6	77.2	36.924	28.51	1011.00	378.76
	Apr	301.0	78.1	37.796	29.52	1009.69	381.92
	May	301.1	82.1	38.017	31.21	1008.17	388.33
	Jun	300.2	85.4	35.859	30.62	1008.20	387.45
	Jul	299.9	85.9	35.440	30.44	1008.13	387.20
	Aug	299.9	87.1	35.440	30.87	1008.00	389.58
	Sep	299.6	87.0	34.820	30.29	1008.53	387.19
	Oct	299.8	83.9	35.232	29.56	1010.07	384.20
	Nov	299.7	75.9	35.025	26.58	1010.93	372.21
	Dec	299.2	69.7	34.008	23.70	1011.65	361.20
	Year	300.0	79.8	35.649	28.45	1009.89	379.21
Ko Sichang	Jan	299.3	63.9	34.209	21.86	1012.60	353.62
	Feb	300.6	70.0	36.924	25.85	1011.66	367.93
	Mar	301.8	71.0	39.594	28.11	1010.34	374.98
	Apr	303.1	69.4	42.674	29.62	1009.12	378.70
	May	302.5	73.9	41.228	30.47	1007.15	382.64
	Jun	302.4	71.5	40.991	29.31	1007.00	378.04
	Jul	301.8	73.3	39.594	29.02	1006.81	377.81
	Aug	301.6	73.6	39.137	28.81	1006.86	377.28
	Sep	300.9	76.6	37.576	28.78	1007.46	378.48
	Oct	300.3	77.8	36.282	28.23	1009.83	377.90
	Nov	300.1	69.9	35.859	25.07	1011.23	365.39
	Dec	299.4	64.4	34.411	22.16	1012.00	354.57
	Year	301.2	71.3	38.239	27.26	1009.34	372.20

Station	Month	T °K	RH %	es mb	e mb	P mb	N
Hua Hin	Jan	297.8	72.3	31.295	22.63	1012.22	358.99
	Feb	299.1	76.3	33.807	25.80	1011.04	369.95
	Mar	300.6	75.1	36.924	27.73	1009.93	375.26
	Apr	301.8	73.5	39.594	29.10	1008.69	378.62
	May	302.1	76.8	40.287	30.94	1006.90	385.18
	Jun	301.9	74.6	39.824	29.71	1006.63	380.41
	Jul	301.4	76.2	38.686	29.47	1006.67	380.28
	Aug	301.4	76.8	38.686	29.71	1006.77	381.28
	Sep	300.8	80.0	37.358	29.89	1007.51	383.21
	Oct	299.9	83.8	35.440	29.70	1009.72	384.52
	Nov	299.2	78.7	34.008	26.76	1011.20	373.86
	Dec	298.1	73.3	31.860	23.35	1012.27	361.60
	Year	300.3	76.5	36.282	27.76	1009.12	375.65
Prachuap Khiri Khan							
	Jan	297.6	76.7	30.923	23.72	1012.72	364.04
	Feb	298.9	79.6	33.410	26.59	1011.67	373.76
	Mar	300.2	78.4	36.070	28.28	1010.71	378.39
	Apr	301.7	76.6	39.365	30.15	1009.36	383.27
	May	302.0	77.6	40.055	31.08	1007.64	386.12
	Jun	301.5	77.7	38.911	30.23	1007.58	383.48
	Jul	301.2	77.6	38.239	29.74	1007.77	381.72
	Aug	301.0	78.5	37.796	29.67	1007.76	382.04
	Sep	301.0	78.7	37.796	29.75	1008.33	382.50
	Oct	299.9	82.9	35.440	29.38	1010.14	383.30
	Nov	299.1	79.0	33.807	26.71	1011.35	373.82
	Dec	298.0	75.1	31.671	23.79	1012.40	363.60
	Year	300.2	78.2	36.070	28.21	1009.79	377.85

Station	Month	T °K	RH %	e <sub>s</sub> mb	e mb	P mb	N
Chumphon	Jan	297.9	82.1	31.483	25.85	1012.40	372.43
	Feb	299.0	81.5	33.608	27.39	1011.56	376.89
	Mar	300.1	80.1	35.859	28.72	1010.73	380.40
	Apr	301.3	79.1	38.462	30.42	1009.45	385.07
	May	301.3	82.5	38.462	31.73	1008.12	390.11
	Jun	300.7	82.8	37.140	30.75	1008.29	387.15
	Jul	300.3	83.7	36.282	30.37	1008.48	386.30
	Aug	300.3	83.7	36.282	30.37	1008.54	386.31
	Sep	300.2	84.2	36.070	30.37	1009.02	386.62
	Oct	299.8	86.3	35.232	30.41	1010.28	387.77
	Nov	298.9	85.8	33.410	28.67	1011.12	382.27
	Dec	297.8	82.8	31.295	25.91	1012.11	372.78
	Year	299.8	82.9	35.232	29.21	1010.01	382.72
Surat Thani (Ban Don)							
	Jan	298.6	83.4	32.821	27.37	1011.96	377.57
	Feb	299.5	79.0	34.615	27.35	1011.15	375.78
	Mar	300.7	76.7	37.140	28.49	1010.41	376.26
	Apr	301.8	77.7	39.594	30.77	1009.33	385.60
	May	301.7	82.4	39.365	32.44	1008.33	392.37
	Jun	301.2	82.3	38.239	31.47	1008.68	389.35
	Jul	300.8	82.9	37.358	30.97	1008.77	388.00
	Aug	300.7	83.2	37.140	30.90	1008.84	387.90
	Sep	300.6	84.8	36.924	31.31	1009.30	389.89
	Oct	299.9	87.6	35.440	31.06	1010.01	390.18
	Nov	299.1	88.2	33.807	29.82	1010.85	386.67
	Dec	298.6	86.1	32.821	28.26	1011.68	381.21
Year	300.3	82.9	36.282	30.08	1009.94	385.47	

Station	Month	T °K	RH %	Wes mb	Wet mb	P mb	N
Nakhon Si Thammarat							
	Jan	298.9	82.9	33.410	27.70	1011.93	378.43
	Feb	299.5	80.1	34.615	27.73	1011.26	377.39
	Mar	300.5	77.6	36.709	28.49	1010.47	378.70
	Apr	301.4	78.8	38.686	30.49	1009.14	385.08
	May	301.7	79.3	39.365	31.22	1007.88	387.25
	Jun	301.5	75.7	38.911	29.46	1008.10	380.41
	Jul	301.1	76.6	38.017	29.12	1008.17	379.72
	Aug	301.0	77.0	37.796	29.10	1008.15	379.81
	Sep	300.8	78.8	37.358	29.44	1008.66	381.65
	Oct	300.0	83.7	35.649	29.84	1009.74	384.93
	Nov	299.1	85.8	33.807	29.01	1010.46	383.18
	Dec	298.8	84.6	33.212	28.10	1011.46	380.15
	Year	300.4	80.1	36.495	29.23	1009.62	381.72
Songkhla							
	Jan	299.8	78.1	35.232	27.52	1011.76	376.15
	Feb	300.1	77.2	35.859	27.68	1011.19	376.21
	Mar	300.6	77.5	36.924	28.62	1010.44	379.05
	Apr	301.4	78.1	38.686	30.21	1009.38	384.02
	May	301.7	80.4	39.365	31.65	1008.45	389.17
	Jun	301.4	79.5	38.686	30.76	1008.76	386.09
	Jul	301.1	79.6	38.017	30.26	1008.83	384.59
	Aug	301.1	79.3	38.017	30.15	1008.93	384.14
	Sep	300.9	80.5	37.576	30.25	1009.39	385.02
	Oct	300.3	84.0	36.282	30.48	1010.14	387.17
	Nov	299.7	84.8	35.025	29.70	1010.48	385.07
	Dec	299.6	82.1	34.820	28.59	1011.27	380.82
	Year	300.6	80.1	36.924	29.58	1009.92	382.90

Station	Month	T °K	RH %	e <sub>s</sub> mb	$\bar{e}$ mb	P mb	N
Narathiwat	Jan	298.9	80.8	33.410	27.00	1012.10	375.54
	Feb	299.3	78.8	34.209	26.97	1011.66	374.62
	Mar	300.2	77.6	36.070	27.99	1010.78	377.21
	Apr	301.0	77.0	37.796	29.10	1009.62	380.19
	May	301.2	78.4	38.239	29.98	1008.38	383.14
	Jun	300.8	78.4	37.358	29.29	1008.93	381.11
	Jul	300.4	78.8	36.495	28.76	1008.93	379.58
	Aug	300.4	79.2	36.495	28.90	1009.05	380.21
	Sep	300.4	79.6	36.495	29.05	1009.50	380.94
	Oct	299.8	82.7	35.232	29.14	1010.21	382.48
	Nov	299.2	85.2	34.008	28.98	1010.54	382.90
	Dec	298.8	84.5	33.212	28.06	1011.51	380.02
	Year	300.0	80.1	35.649	28.56	1010.10	379.70
Ranong	Jan	298.9	76.8	33.410	25.66	1011.45	369.79
	Feb	299.8	74.5	35.232	26.25	1010.80	370.64
	Mar	300.8	74.4	37.358	27.79	1010.22	375.26
	Apr	301.5	78.3	38.911	30.47	1009.25	384.86
	May	300.6	85.1	36.924	31.42	1008.43	390.19
	Jun	299.8	88.2	35.282	31.12	1008.84	390.36
	Jul	299.6	87.9	34.820	30.61	1008.93	388.60
	Aug	299.4	88.5	34.411	30.45	1008.97	388.32
	Sep	299.2	89.5	34.008	30.44	1009.49	388.73
	Oct	299.4	88.4	34.411	30.42	1010.22	388.50
	Nov	299.2	84.5	34.008	28.74	1010.60	381.93
	Dec	298.8	79.6	33.212	26.44	1011.30	373.18
	Year	299.8	83.0	35.232	29.24	1009.98	382.85

Station	Month	T °K	RH %	e <sub>s</sub> mb	e mb	P mb	N
Phuket	Jan	300.4	72.4	36.495	26.42	1011.14	370.49
	Feb	301.0	70.6	37.796	26.68	1010.54	370.46
	Mar	301.6	71.6	39.137	28.02	1010.02	374.86
	Apr	301.8	75.0	39.594	29.70	1009.18	381.18
	May	301.1	81.4	38.017	30.95	1008.48	387.31
	Jun	300.8	80.2	37.358	29.96	1008.88	383.87
	Jul	300.4	80.7	36.495	29.45	1008.99	382.46
	Aug	300.5	80.5	36.709	29.55	1009.07	382.73
	Sep	300.1	82.8	35.859	29.69	1009.53	384.10
	Oct	300.1	83.1	35.859	29.80	1010.16	384.71
	Nov	300.2	80.1	36.070	28.89	1010.33	380.78
	Dec	300.3	75.4	36.282	27.36	1010.80	374.43
	Year	300.7	77.8	37.140	28.89	1009.76	379.84
Trang	Jan	299.7	76.9	35.025	26.93	1010.86	372.92
	Feb	300.7	73.3	37.140	27.22	1010.20	373.08
	Mar	301.7	74.4	39.137	29.12	1009.69	379.11
	Apr	302.1	79.0	40.287	31.83	1008.82	389.30
	May	301.3	85.9	38.462	33.04	1008.11	395.48
	Jun	300.6	86.0	36.942	31.77	1008.68	391.63
	Jul	300.2	86.4	36.070	31.17	1008.67	389.81
	Aug	300.2	86.9	36.070	31.35	1008.82	390.60
	Sep	300.0	87.5	35.649	31.19	1009.13	390.39
	Oct	300.0	88.6	35.649	31.59	1009.87	392.21
	Nov	299.7	85.9	35.025	30.09	1010.05	386.57
	Dec	299.5	82.4	34.615	28.52	1010.21	380.42
	Year	300.5	82.8	36.709	30.40	1009.43	386.31

IV.2. Results for the earth effective radius coefficient

The calculated values of the radio wave propagation constant are tabulated in Table no.7,8,9,and 10, according to the radiosonde data at Bangkok, Chiang Mai, Songkhla, and Ubon Ratchathani, respectively.

Table No.7

The results calculated from the radiosondes data during 1966-  
- 1970 at Bangkok weather station.

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	es mb	e mb	N N-Unit
Jan	3	1012.69	21.60	20.46	94	25.792	24.245	371
	1513	850.00	16.08	10.98	67	18.290	12.254	283
	3141	700.00	8.44	-1.22	51	11.017	5.619	220
	5851	500.00	-6.02	-20.48	32	3.653	1.169	152
	9659	300.00	-32.22	-42.73	35	0.301	0.105	97
Feb	3	1011.98	22.32	21.86	92	26.918	24.765	372
	1512	850.00	17.04	10.98	67	19.367	12.976	285
	3142	700.00	8.60	-0.48	43	11.168	4.802	216
	5854	500.00	-5.92	-16.20	44	3.717	1.636	154
	9668	300.00	-31.96	-39.80	45	0.308	0.139	98
Mar	3	1010.06	24.96	23.56	93	31.671	29.454	385
	1504	850.00	19.20	12.08	62	22.240	13.789	286
	3143	700.00	8.74	-1.30	50	11.243	5.622	219
	5857	500.00	-5.70	-12.30	59	3.781	2.231	157
	9670	300.00	-31.78	-44.70	27	0.315	0.085	97
Apr	3	1009.20	25.44	24.06	92	32.434	29.839	387
	1506	850.00	19.48	13.52	69	22.659	15.635	294
	3149	700.00	9.34	2.24	62	11.708	7.259	226
	5864	500.00	-5.38	-19.00	35	3.879	1.358	152
	9684	300.00	-31.35	-43.80	28	0.214	0.060	97



Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	e <sub>s</sub> mb	e mb	N N-Unit
May	3	1007.38	25.60	24.70	95	32.821	31.180	392
	1482	850.00	18.80	15.00	79	21.691	17.136	301
	3127	700.00	9.52	5.10	73	11.867	8.663	233
	5843	500.00	-5.70	-10.50	67	3.781	2.533	158
	9671	300.00	-30.42	-38.30	46	0.364	0.167	97
Jun	3	1007.19	25.92	24.46	91	33.410	30.403	389
	1487	850.00	18.92	14.32	74	21.827	16.152	297
	3130	700.00	10.08	4.84	70	12.355	8.649	232
	5856	500.00	-4.84	-9.92	67	4.084	2.736	159
	9715	300.00	-29.58	-38.20	44	0.396	0.174	97
Jul	3	1007.13	25.70	23.84	90	33.016	29.714	386
	1479	850.00	18.26	14.46	78	21.023	16.398	299
	3122	700.00	9.66	5.60	76	12.027	9.141	235
	5845	500.00	-5.18	-9.32	73	3.913	2.857	160
	9680	300.00	-29.84	-38.32	43	0.388	0.167	97
Aug	3	1006.91	25.44	24.05	93	32.434	30.164	388
	1480	850.00	18.44	14.38	77	21.155	16.594	299
	3122	700.00	9.56	5.40	75	11.947	8.960	234
	5835	500.00	-5.08	-9.30	72	3.981	2.866	160
	9678	300.00	-29.96	-36.90	51	0.380	0.194	97
Sep	3	1007.82	25.16	23.98	93	32.050	29.486	386
	1485	850.00	17.98	14.38	80	20.630	16.504	299
	3126	700.00	9.32	4.96	74	11.708	8.664	233
	5845	500.00	-5.40	-10.22	69	3.879	2.677	159
	9676	300.00	-30.24	-38.18	51	0.372	0.190	97
Oct	3	1010.37	24.88	23.70	93	31.483	29.279	386
	1502	850.00	17.36	13.56	78	19.864	15.494	296
	3145	700.00	9.52	4.72	71	11.867	8.426	232
	5859	500.00	-5.66	-12.96	57	3.781	2.155	156
	9678	300.00	-30.68	-37.35	52	0.353	0.184	97

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	e <sub>s</sub> mb	e mb	N
Nov	3	1012.06	23.36	21.84	91	28.773	26.183	376
	1512	850.00	16.60	11.82	78	18.882	14.728	293
	3144	700.00	8.96	-2.72	45	11.474	5.163	217
	5860	500.00	-5.62	-16.08	46	3.813	1.754	154
	9682	300.00	-31.20	-42.30	29	0.342	0.099	97
Dec	3	1012.47	21.50	19.74	91	25.635	23.328	367
	1511	850.00	16.20	10.48	69	18.407	12.701	285
	3141	700.00	8.96	-0.45	52	11.474	5.967	221
	5854	500.00	-5.92	-21.07	31	3.717	1.152	151
	9669	300.00	-31.62	-40.70	40	0.321	0.128	97
Annual	3	1009.65	24.33	23.02	93	30.373	28.247	383
	1498	850.00	17.86	13.00	74	20.501	15.171	294
	3135	700.00	9.22	2.22	61	11.630	7.093	226
	5851	500.00	-5.54	-13.94	52	3.846	2.009	156
	9078	300.00	-30.90	-40.09	40	0.346	0.138	97

Table No. 8

The results calculated from the radiosondes data during the period 1966-1970 at Chiang Mai weather station.

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	$e_s$ mb	$e$ mb	N N-Unit
Jan	314	1015.36	14.56	13.30	92	16.610	15.281	243
	1509	850.00	14.68	8.82	68	16.718	11.368	281
	3126	700.00	7.10	-4.20	45	10.082	4.537	216
	5816	500.00	-7.96	-17.77	45	3.097	1.394	154
	9599	300.00	-33.34	-43.60	35	0.268	0.094	98
Feb	314	1013.93	14.30	12.22	87	16.291	14.173	338
	1499	850.00	16.30	6.80	54	18.524	10.003	273
	3121	700.00	6.18	-6.80	39	9.477	3.696	212
	5811	500.00	-7.76	-22.60	29	3.152	0.914	151
	9614	300.00	-33.04	-42.00	40	0.277	0.111	98
Mar	314	1010.94	18.30	14.10	87	21.023	18.290	350
	1491	850.00	18.80	8.26	52	21.691	11.279	276
	3123	700.00	6.88	-2.78	51	9.945	5.072	218
	5814	500.00	-7.72	-21.45	33	3.180	1.049	152
	9596	300.00	-33.20	-42.45	35	0.271	0.095	97
Apr	314	1009.92	22.30	18.54	80	26.918	21.534	358
	1494	850.00	19.38	12.56	66	22.518	14.862	291
	3136	700.00	8.52	1.38	60	11.092	6.655	224
	5838	500.00	-6.92	-18.87	38	3.409	1.295	153
	9622	300.00	-32.64	-43.67	34	0.289	0.098	98
May	314	1007.14	23.98	21.76	88	29.831	26.251	374
	1473	850.00	18.84	15.40	81	21.691	17.570	303
	3116	700.00	9.56	5.22	75	11.947	8.960	234
	5836	500.00	-5.10	-12.12	58	3.981	2.309	157
	9671	300.00	-29.60	-38.67	41	0.396	0.162	97

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	es mb	e mb	N N-Unit
Jun	314	1006.10	24.42	22.68	90	30.555	27.500	379
	1465	850.00	18.26	15.94	87	21.023	18.290	307
	3109	700.00	9.96	6.64	80	12.272	9.818	238
	5834	500.00	-4.74	-8.62	79	4.119	3.254	162
	9680	300.00	-28.76	-37.36	44	0.430	0.189	97
Jul	314	1005.42	24.08	22.56	91	30.011	27.310	378
	1458	850.00	17.90	15.80	88	20.501	19.041	306
	3099	700.00	9.80	7.20	84	12.108	10.171	240
	5826	500.00	-4.60	-10.46	44	4.154	1.828	154
	9674	300.00	-28.68	-35.58	52	0.435	0.226	97
Aug	314	1005.82	23.60	22.80	91	29.122	26.501	376
	1460	850.00	18.10	15.70	86	20.760	17.854	305
	3103	700.00	9.80	7.20	84	12.108	10.171	240
	5829	500.00	-4.70	-8.90	72	4.119	2.966	160
	9675	300.00	-28.70	-37.10	45	0.435	0.196	97
Sep	314	1008.01	23.30	22.20	94	28.600	26.884	378
	1477	850.00	17.90	15.80	88	20.501	18.041	306
	3118	700.00	9.20	5.50	78	11.630	9.071	234
	5838	500.00	-5.20	-12.10	58	3.947	2.289	157
	9671	300.00	-29.70	-39.20	39	0.392	0.153	97
Oct	314	1012.12	21.94	20.90	94	26.269	24.693	372
	1506	850.00	16.82	14.22	85	19.123	16.255	300
	3137	700.00	8.10	3.26	71	10.795	7.665	230
	5848	500.00	-6.04	-15.48	48	3.685	1.769	155
	9664	300.00	-31.08	-42.08	33	0.339	0.112	97
Nov	314	1014.68	19.16	18.12	92	22.240	20.460	359
	1518	850.00	15.50	12.48	82	17.600	14.432	293
	3142	700.00	7.28	-0.52	54	10.221	5.519	220
	5846	500.00	-6.42	-19.12	36	3.560	1.282	152
	9650	300.00	-32.06	-43.05	36	0.305	0.110	97

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	$e_s$ mb	$e$ mb	N
Dec	314	1015.36	16.40	15.36	93	18.643	17.338	350
	1512	850.00	14.34	11.30	82	16.291	13.359	290
	3133	700.00	7.58	-6.50	38	10.433	3.965	212
	5832	500.00	-7.26	-21.37	34	3.292	1.119	152
	9630	300.00	-32.50	-45.70	26	0.292	0.076	97
Annual	814	1010.40	20.53	18.71	90	24.107	21.696	361
	1489	850.00	17.24	12.76	74	19.739	14.607	292
	3129	700.00	8.33	1.30	62	10.943	6.785	225
	5830	500.00	-6.20	-15.38	44	3.622	1.594	154
	9646	300.00	-31.11	-40.87	33	0.339	0.112	97

Table No. 9

The results calculated from the radiosondes data during the period 1966 - 1970 at Songkhla weather station.

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	es mb	e mb	N N-Unit
Jan	5	1011.10	24.82	22.46	89	31.295	27.853	381
	1500	850.00	15.70	12.86	83	17.827	14.796	295
	3131	700.00	8.18	-13.60	20	10.869	2.174	203
	5839	500.00	-6.38	-17.92	39	3.560	1.388	153
	9642	300.00	-32.64	-43.80	32	0.289	0.093	98
Feb	5	1011.23	24.47	22.32	88	30.739	27.050	378
	1504	850.00	16.52	10.45	67	18.762	12.571	284
	3135	700.00	8.75	-4.50	42	11.320	4.754	215
	5846	500.00	-6.25	-17.83	40	3.591	1.436	153
	9655	300.00	-32.10	-44.13	30	0.305	0.092	97
Mar	5	1009.77	24.58	22.58	88	30.923	27.212	378
	1495	850.00	17.60	11.20	66	20.117	13.277	286
	3132	700.00	9.45	-2.58	43	11.867	5.103	216
	5848	500.00	-5.85	-18.18	37	3.717	1.375	152
	9672	300.00	-31.50	-44.05	28	0.325	0.091	97
Apr	5	1009.47	25.00	23.56	92	31.671	29.137	385
	1498	850.00	17.94	12.24	69	20.501	14.146	289
	3137	700.00	9.26	-0.14	52	11.708	6.088	221
	5854	500.00	-5.82	-17.42	40	3.748	1.499	153
	9672	300.00	-31.24	-42.18	33	0.355	0.117	97
May	5	1008.33	24.88	23.75	94	31.483	29.594	387
	1492	850.00	18.72	14.40	76	21.556	16.383	298
	3135	700.00	9.78	4.58	71	12.108	8.597	232
	5856	500.00	-5.85	-12.88	56	3.879	2.172	156
	9685	300.00	-30.28	-39.18	42	0.368	0.155	97
Jun	5	1008.75	24.60	23.32	93	30.923	28.758	384
	1495	850.00	18.38	13.52	73	21.155	15.443	294
	3135	700.00	9.34	3.06	65	11.708	7.610	228
	5864	500.00	-5.88	-11.76	63	3.717	2.342	158
	9671	300.00	-31.20	-38.96	47	0.335	0.158	97

Month	GM M(MSL)	P mb	T °C	Td °C	RH %	es mb	e mb	N N-Unit
Jul	5	1008.21	24.10	23.10	94	30.011	28.210	383
	1493	850.00	17.95	12.55	74	20.630	15.266	294
	3131	700.00	8.78	2.98	67	11.320	7.584	228
	5851	500.00	-6.22	-12.30	62	3.622	2.246	157
	9654	300.00	-31.60	-39.42	46	0.321	0.148	97
Aug	5	1008.80	24.17	23.00	94	30.191	28.380	383
	1491	850.00	17.73	13.36	75	20.244	15.183	294
	3128	700.00	8.60	3.40	70	11.168	7.818	230
	5840	500.00	-5.96	-12.00	62	3.685	2.285	157
	9659	300.00	-31.70	-40.10	39	0.318	0.124	97
Sep	5	1008.50	24.05	22.62	91	30.011	27.310	379
	1493	850.00	17.52	12.85	74	19.990	14.793	293
	3128	700.00	8.45	3.15	70	11.092	7.764	230
	5834	500.00	-6.42	-12.40	64	3.560	2.278	158
	9648	300.00	-32.00	-40.27	44	0.308	0.136	98
Oct	5	1009.90	24.00	23.02	94	29.831	28.041	383
	1498	850.00	17.12	13.74	80	19.490	15.592	297
	3133	700.00	8.26	3.88	73	10.943	7.988	231
	5843	500.00	-6.48	-12.04	64	3.529	2.259	158
	9654	300.00	-31.76	-40.96	40	0.315	0.126	97

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	e <sub>s</sub> mb	e mb	N N-Unit
Nov	5	1010.24	24.77	23.20	92	31.295	28.791	385
	1504	850.00	16.73	13.67	82	19.002	15.582	297
	3136	700.00	8.40	0.90	59	11.017	6.500	224
	5848	500.00	-6.13	-14.97	51	3.653	1.863	155
	9662	300.00	-31.57	-41.60	37	0.321	0.119	97
Dec	5	1010.51	24.30	22.50	89	30.373	27.032	378
	1505	850.00	15.72	12.40	81	17.827	14.440	293
	3135	700.00	8.60	-0.52	57	11.168	6.366	223
	5844	500.00	-6.22	-15.20	49	3.622	1.775	155
	9657	300.00	-31.70	-41.53	36	0.318	0.115	98
Annual	5	1009.03	24.46	22.93	91	30.739	27.973	381
	1497	850.00	17.30	12.77	75	19.739	14.804	293
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	9660	300	-31.61	-41.35	38	0.260	0.099	97



Table No. 10.

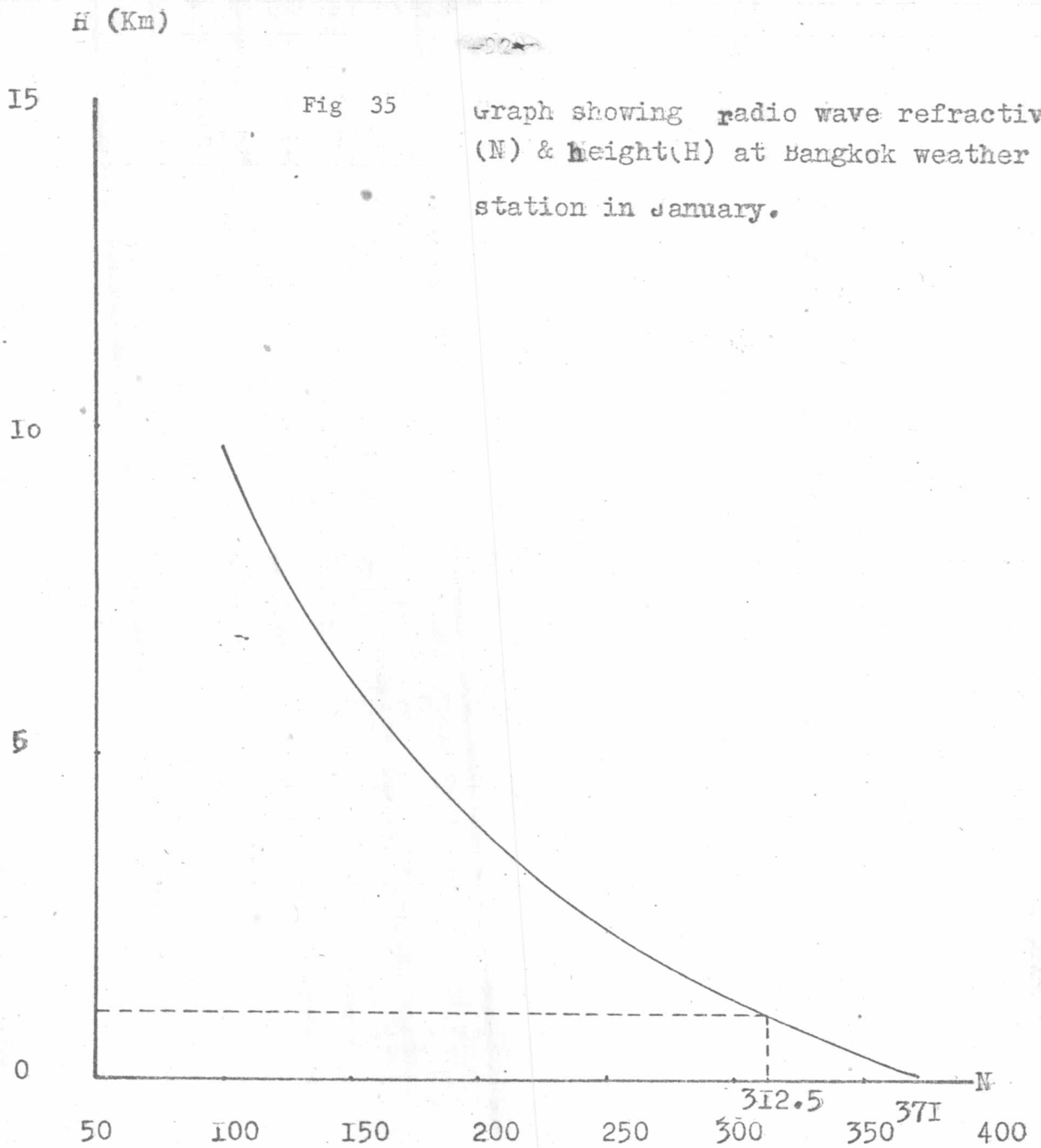
The results calculated from the radiosondes data during the period-  
1966 - 1970 at Ubon Ratchathani weather station.

Month	SPM M(MSL)	P mb	T °C	Td °C	RH %	e <sub>s</sub> mb	e mb	N N-Unit
Jan	123	1014.54	19.10	15.70	87	22.101	19.228	354
	1514	850.00	15.70	10.30	70	17.827	12.479	284
	3141	700.00	7.10	-4.20	44	10.082	4.436	215
	5851	500.00	-6.20	-20.70	31	3.622	1.123	151
	9656	300.00	-32.50	-45.30	27	0.292	0.079	97
Feb	123	1013.68	20.30	16.50	79	23.811	18.811	350
	1513	850.00	16.98	11.12	69	19.367	13.363	287
	3141	700.00	7.76	-4.98	41	10.577	4.337	214
	5852	500.00	-5.74	-22.97	24	3.846	0.923	150
Mar	1123	1011.19	23.86	18.78	74	29.652	21.943	357
	1524	850.00	18.72	12.86	69	21.556	14.874	291
	3143	700.00	8.20	1.38	58	10.869	6.304	223
	5856	500.00	-5.76	-20.02	31	3.748	1.162	151
	9665	300.00	-32.14	-38.30	54	0.305	0.165	98
Apr	123	1010.86	24.84	20.36	76	31.109	23.643	363
	1505	850.00	19.00	13.40	70	21.964	15.375	293
	3146	700.00	8.64	1.32	61	11.168	6.813	225
	5859	500.00	-5.60	-22.45	25	3.846	0.962	150
	9675	300.00	-31.78	-39.48	46	0.315	0.145	97
May	123	1008.87	25.34	22.94	87	32.242	28.051	380
	1488	850.00	19.28	14.88	76	22.379	17.008	300
	3135	7700.00	10.06	3.76	65	12.355	8.308	229
	5866	500.00	-4.84	-12.30	56	4.084	2.287	156
	9699	300.00	-29.68	-33.78	67	0.392	0.263	97

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	es mb	e mb	N N-Unit
Jun	1123	1007.67	25.24	22.86	86	32.050	27.563	378
	1482	850.00	18.92	15.74	82	21.827	17.898	304
	3128	700.00	10.02	5.26	72	8.903	6.410	226
	5856	500.00	-4.66	-12.08	56	4.119	2.307	157
	9696	300.00	-29.35	-40.85	32	0.404	0.129	96
Jul	123	1006.82	25.08	22.66	85	31.860	27.081	376
	1473	850.00	18.68	15.34	81	21.556	17.460	307
	3117	700.00	9.98	5.30	73	12.272	8.959	234
	5844	500.00	-4.94	-12.06	56	4.049	2.267	157
	9684	300.00	-29.66	-42.40	28	0.392	0.110	96
Aug	123	1007.03	24.94	23.12	91	31.483	28.650	383
	1472	850.00	18.34	15.12	82	21.023	17.389	302
	3116	700.00	9.58	5.68	76	11.947	9.080	235
	5841	500.00	-4.98	-11.10	62	4.015	2.489	158
	9679	300.00	-29.78	-40.02	36	0.388	0.140	97
Sep	123	1008.13	24.50	22.80	90	30.739	27.665	380
	1480	850.00	18.00	14.92	82	20.630	16.917	301
	3121	700.00	9.40	4.16	70	11.787	8.251	231
	5844	500.00	-5.08	-12.70	55	3.748	2.061	156
	9680	300.00	-29.96	-41.60	31	0.380	0.118	97
Oct	123	1011.30	23.42	20.36	82	28.773	23.594	365
	1504	850.00	17.60	13.64	78	20.117	15.691	296
	3144	700.00	9.54	2.68	62	11.867	7.358	227
	5864	500.00	-5.32	-17.52	37	3.913	1.448	153
	9690	300.00	-30.92	-44.27	26	0.346	0.090	97

Month	GPM M(MSL)	P mb	T °C	Td °C	RH %	$e_s$ mb	$e$ mb	N
Nov	123	1006.74	21.14	17.90	82	25.014	20.512	354
	1514	850.00	16.98	10.88	67	19.367	12.976	285
	3148	700.00	9.54	-2.40	43	11.867	5.103	217
	5864	500.00	-5.44	-20.80	28	3.879	1.086	151
Dec	1123	1014.21	19.20	16.20	83	22.240	18.459	350
	1512	850.00	15.56	10.78	73	17.713	12.931	287
	3141	700.00	9.14	-3.43	41	11.552	4.736	215
	5853	500.00	-5.92	-21.20	29	3.717	1.078	151
Annual	123	1010.04	23.08	20.02	83	28.256	23.433	365
	1498	850.00	17.81	13.25	75	20.372	15.279	294
	3135	700.00	9.41	1.21	56	11.787	6.601	223
	5854	500.00	-5.37	-17.16	39	3.879	1.513	153
	9678	300.00	-30.94	-40.67	34	0.346	0.118	97

The values of the refractivity N, and the height H (in GMP) are plotted on graph papers with N as abscissa and H as ordinate and the values of K and b are calculated for each figure. Fig.35 to Fig.47 show the values from the Table No.7, in each month, Figs. 48 to 60 show the values from the Table No.8, Figs. 61 to 73 show the values from the Table No.9, and Figs. 74 to 86 show the values from the Table No.10, respectively.



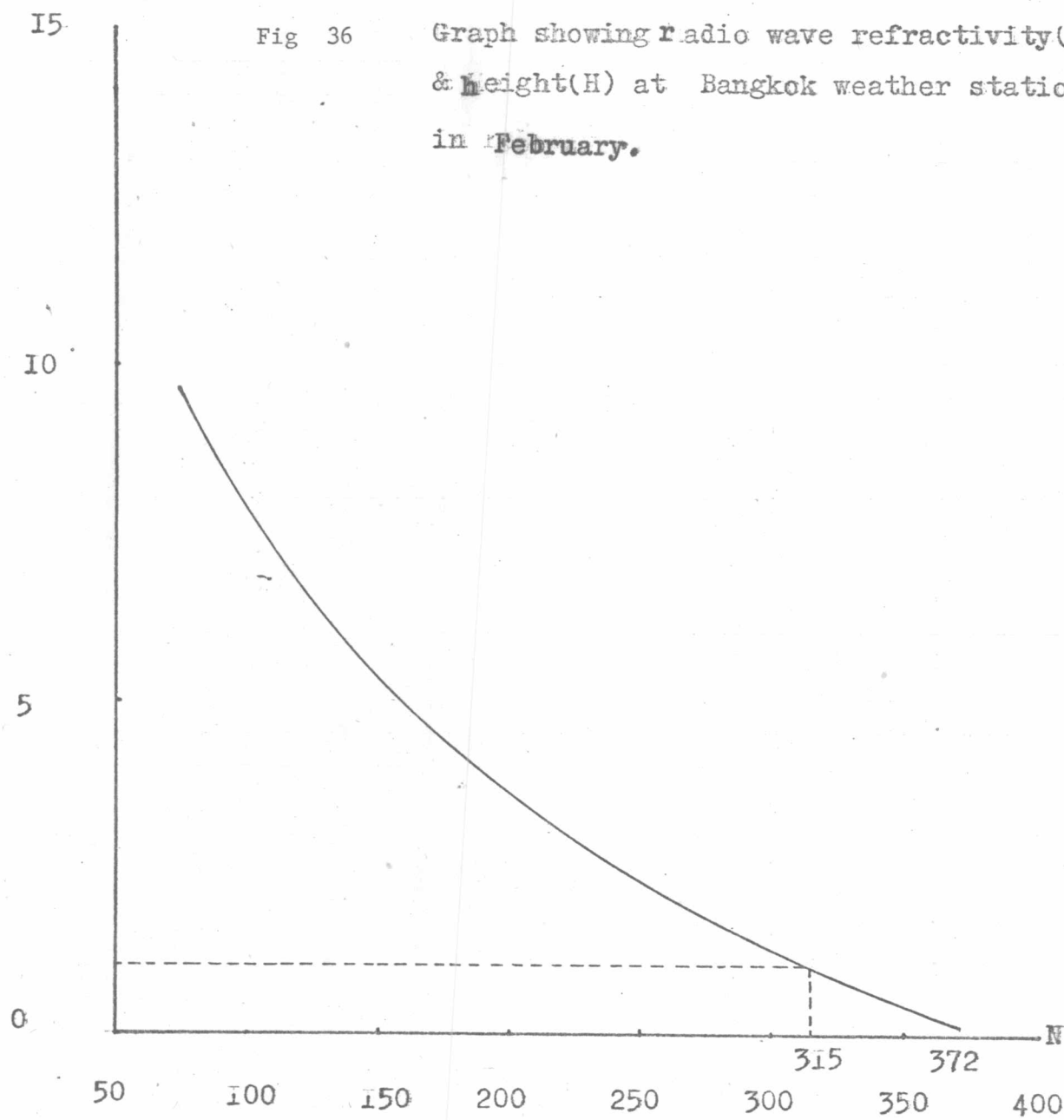
$$\Delta N = 58.5, \quad \Delta H = -1 \text{ km.}$$

$$K = \frac{1}{1 + 6370(-58.5) 10^{-6}} = 1.59$$

$$\exp(-b) = 1 + \frac{58.5}{371} = 1.1577$$

$$b = -0.1464$$

H (Km)



$\Delta N = 57$  ,  $\Delta H = -1$  Km.

$K = \frac{1}{1 + 6370(-57)10^{-6}} = 1.57$

$\exp(-b) = \frac{1 + 57}{372} = 1.1532$

$b = -0.1425$

H (Km)

15

Fig. 37

-93-

Graph showing radio wave refractivity (N) & height (H) at Bangkok weather station in March.

10

5

0

50 100 150 200 250 300 325 350 388 400 N

$\Delta N = 63$  ,  $\Delta H = -1 \text{ Km.}$

$K = \frac{1}{1 + \frac{6370}{388} (-63) \times 10^{-6}} = 1.67$

$\exp(-b) = 1 + \frac{63}{388} = 1.1624$

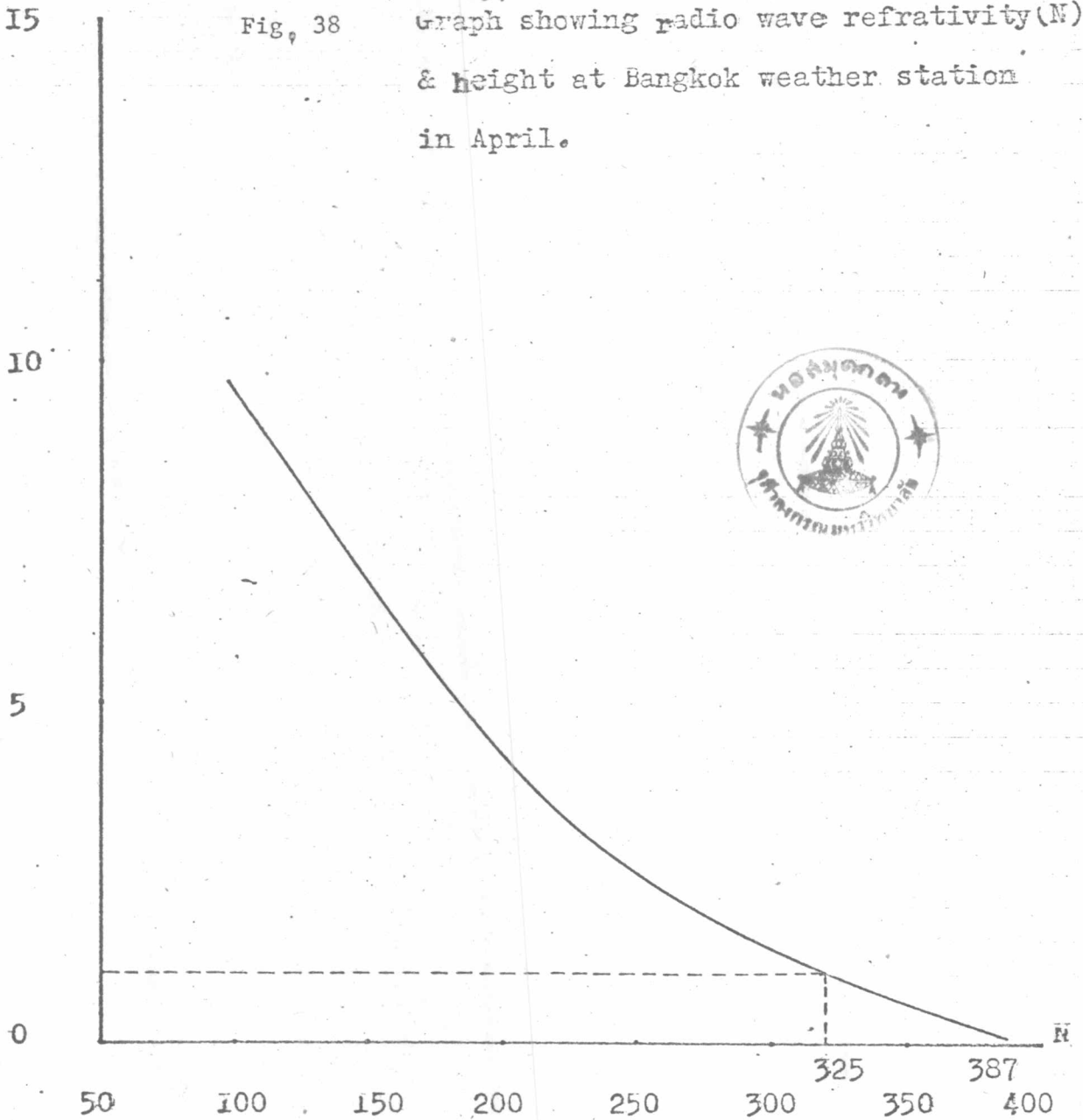
$b = -0.1505$

H (Km)

-94-

Fig, 38

Graph showing radio wave refrativity(N) & height at Bangkok weather station in April.



$$\Delta N = 62, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370(-62) \cdot 10^{-6}} = 1.65$$

$$\exp(-b) = 1 + \frac{62}{378} = 1.1602$$

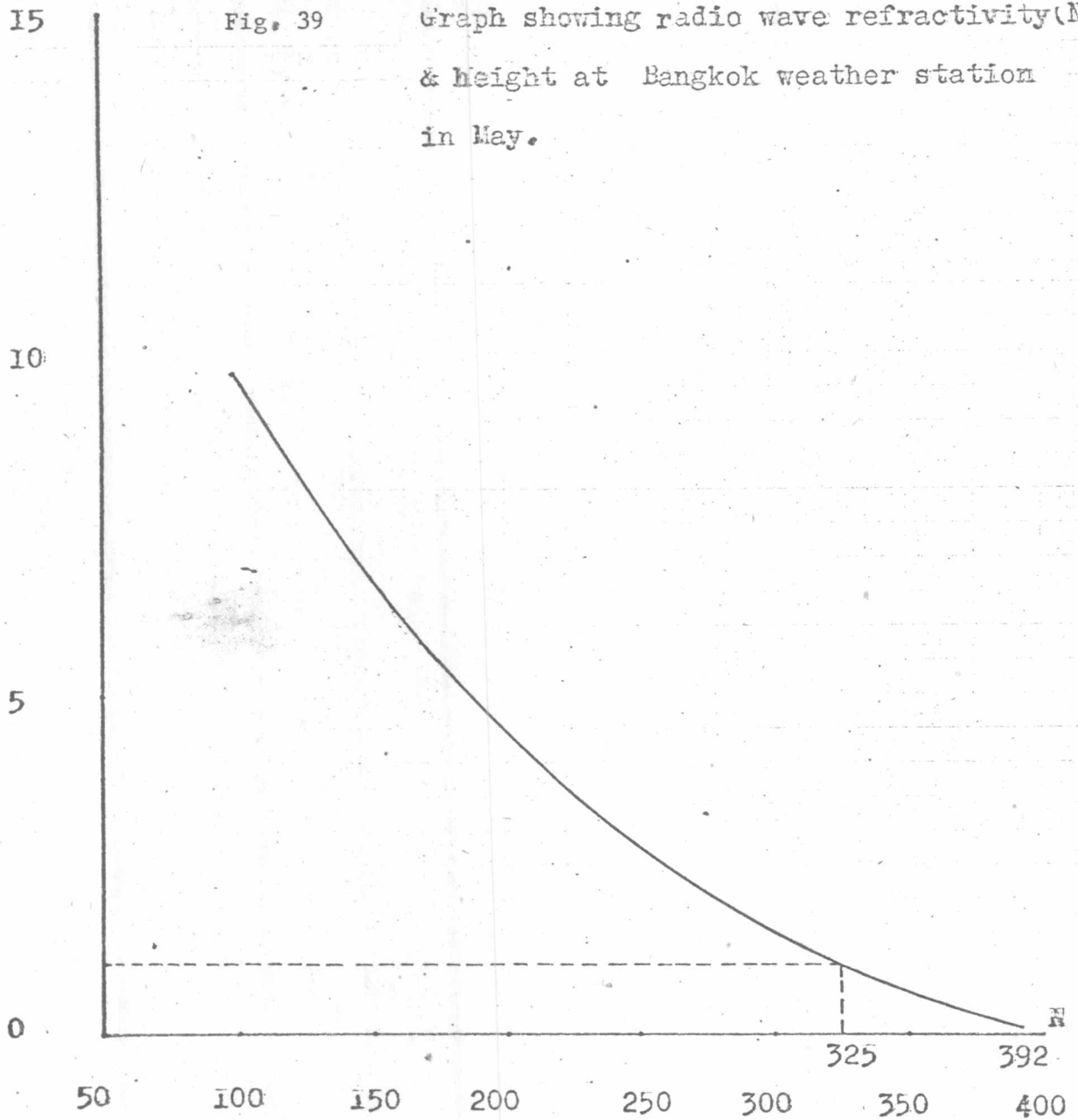
$$b = -0.1486$$

H (Km)

-95-

Fig. 39

Graph showing radio wave refractivity (N) & height at Bangkok weather station in May.



$$\Delta N = 67, \quad \Delta H = -1 \text{ Km.}$$

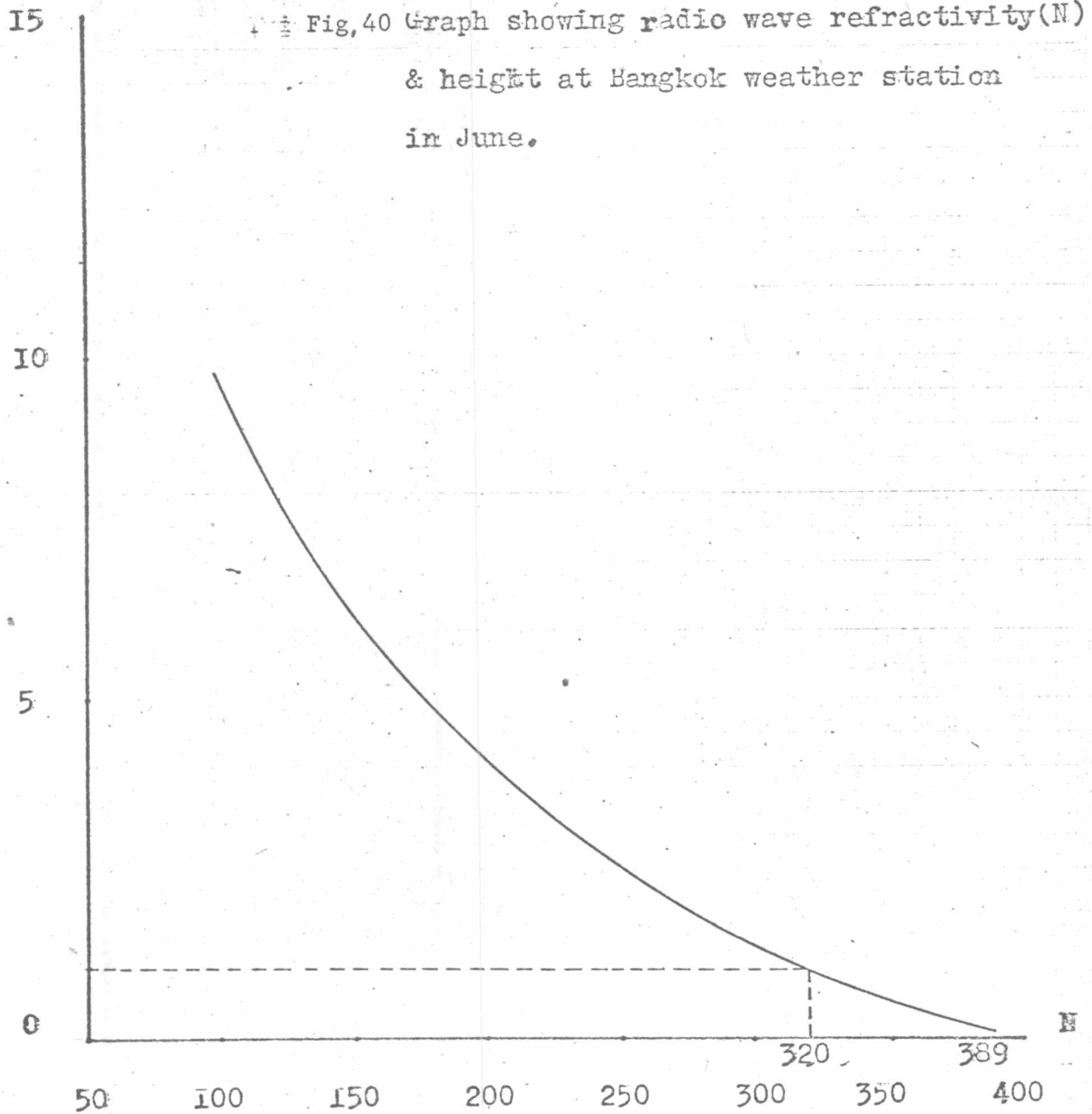
$$K = \frac{1}{1 + 6370(-67) \times 10^{-6}} = 1.75$$

$$\exp(-b) = 1 + \frac{67}{392} = 1.1709$$

$$b = -0.1578$$

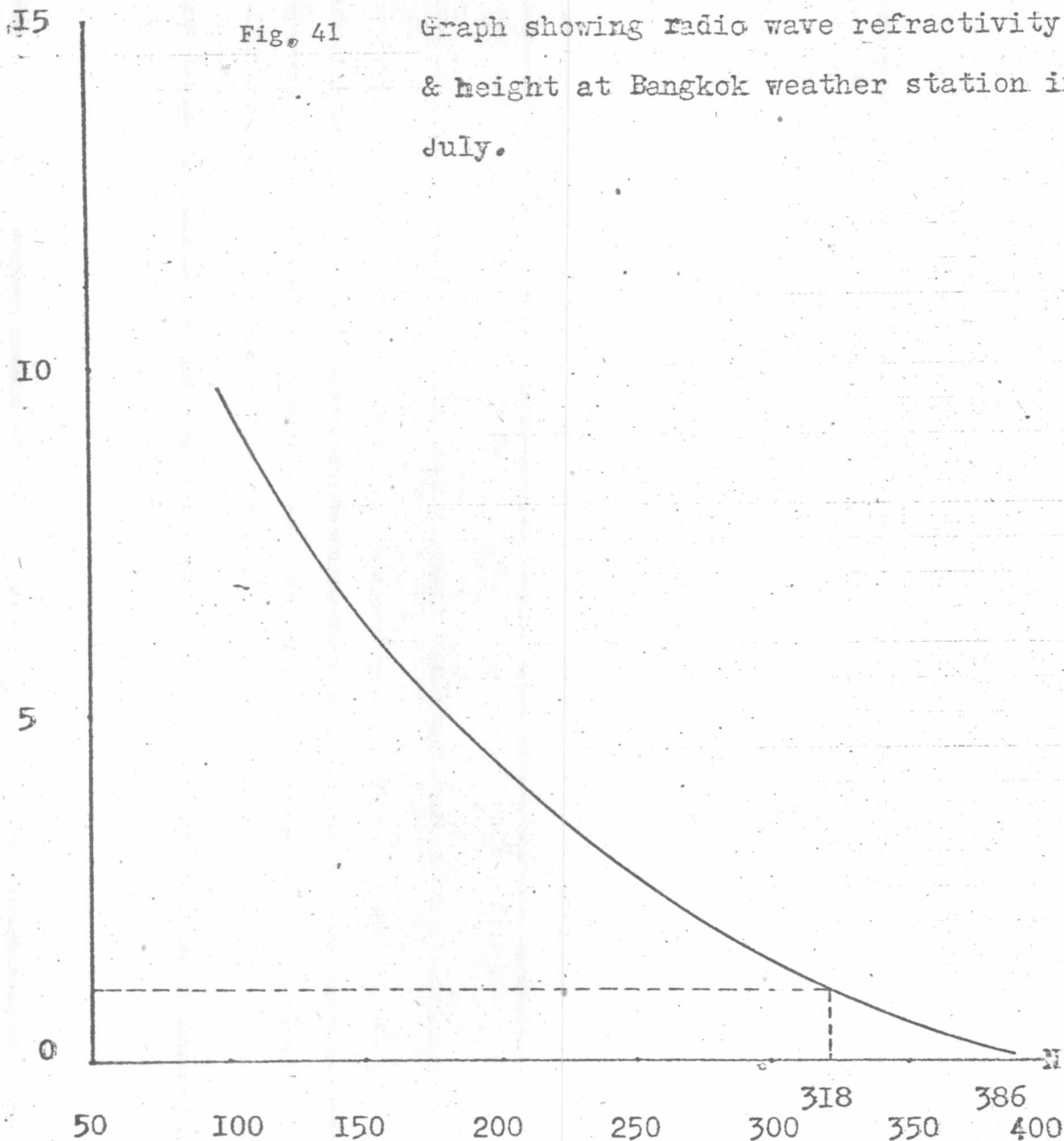


H (Km)



$$\begin{aligned} \Delta N &= 69 & , & \Delta H &= -1 \text{ Km.} \\ K &= \frac{1}{1 + 6370(-67) \cdot 10^{-6}} & = & 1.78 \\ \exp(-b) &= 1 + \frac{67}{389} & = & 1.1774 \\ b &= -0.1633 \end{aligned}$$

H (Km)

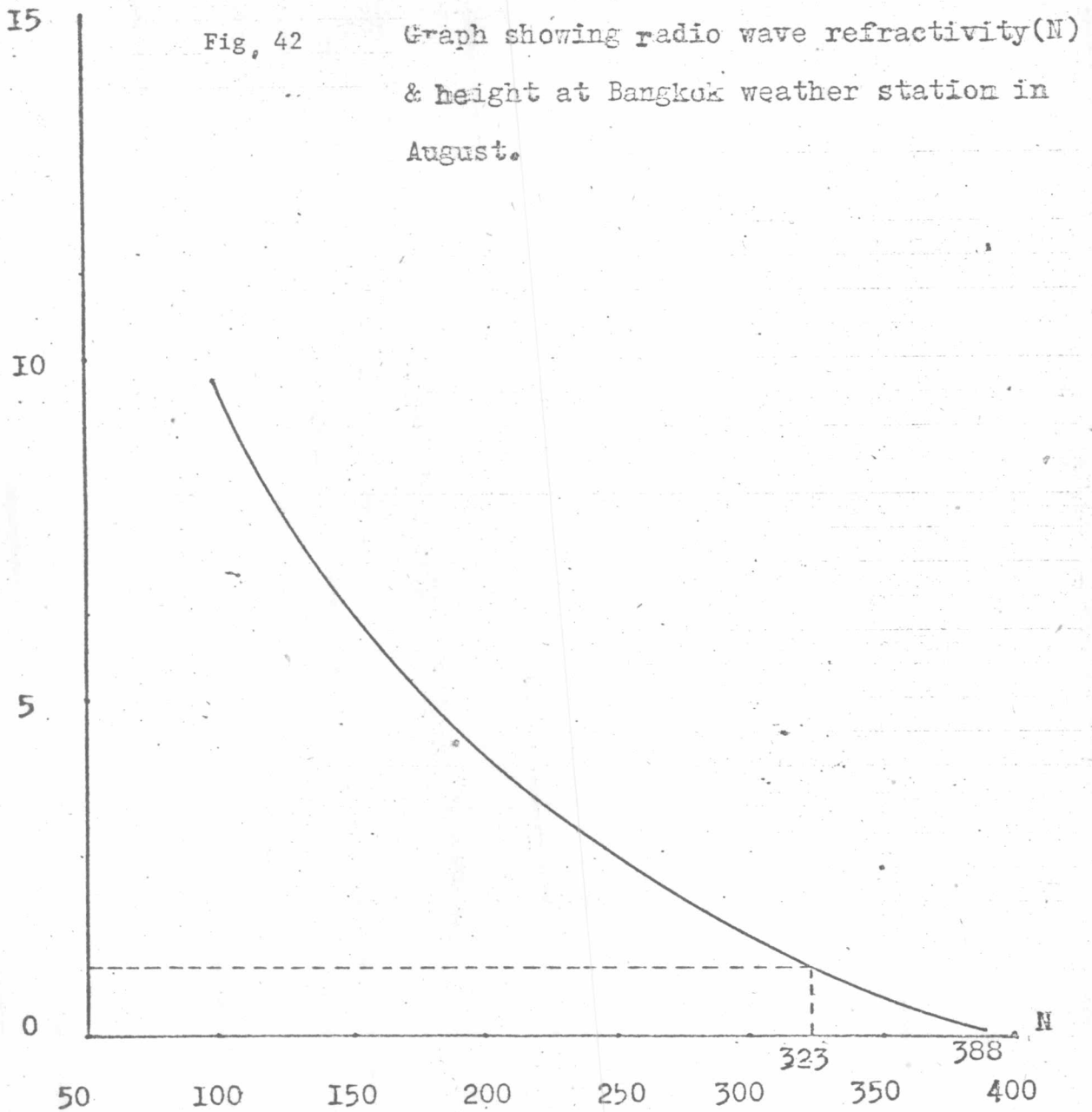


$$\Delta N = 68, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370(-68) * 10^{-6}} = 1.76$$

$$\exp(-b) = 1 + \frac{68}{386} = 1.1762$$

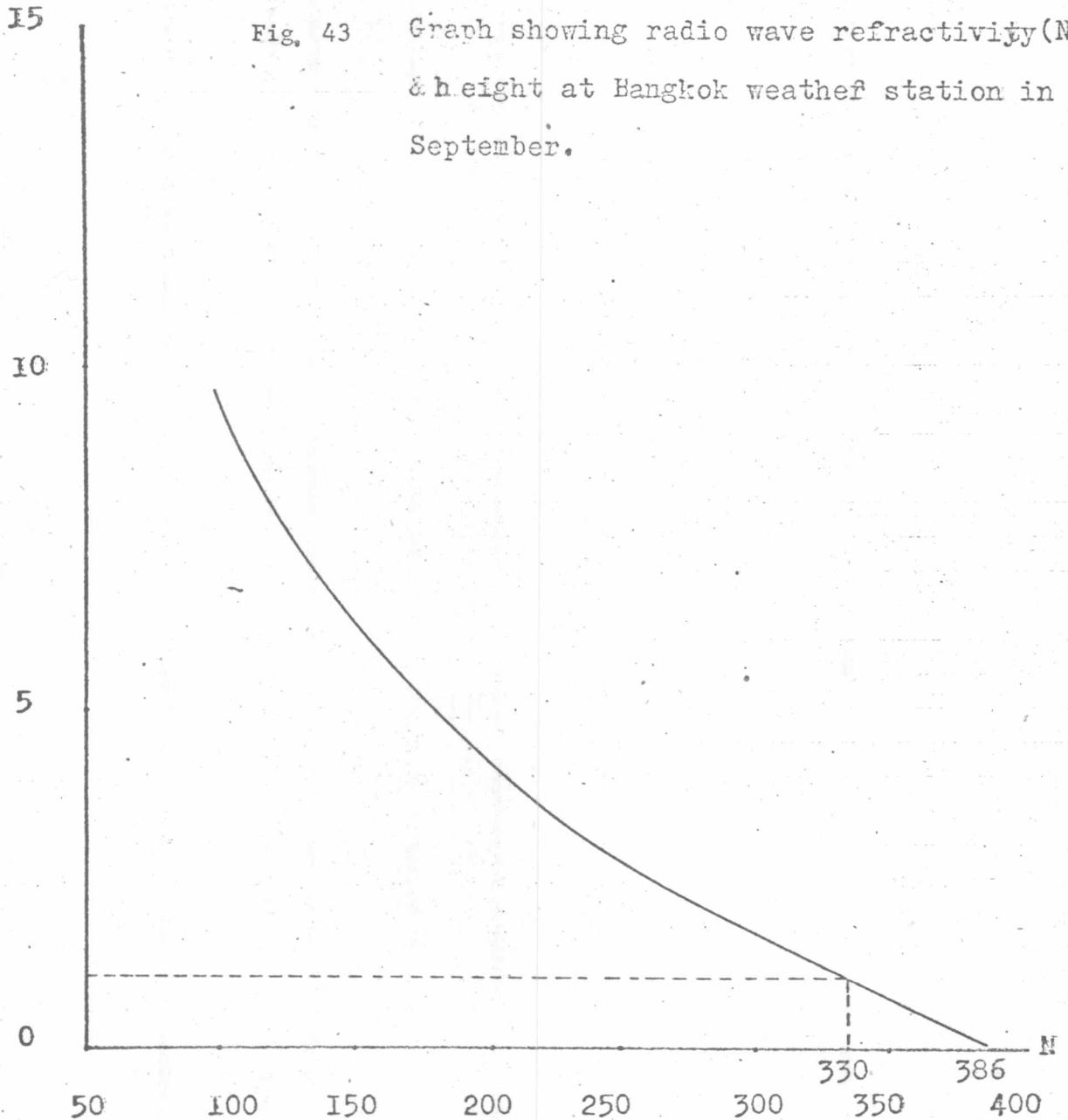
$$b = -0.1623$$



$$\Delta N = 65, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-65) * 10^{-6}} = 1.71$$

$$\exp(-b) = 1 + \frac{65}{388}, \quad b = -0.1549$$



$$\Delta N = 56, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370(-56) \cdot 10^{-6}} = 1.56$$

$$\exp(-b) = 1 + \frac{56}{386} = 1.145\bar{1}$$

$$b = -0.1355$$

H (Km)

-100-

15

Fig. 44 Graph showing radio wave refractivity(N) & height at Bangkok weather station in October.

10

5

0

50

100

150

200

250

300

350

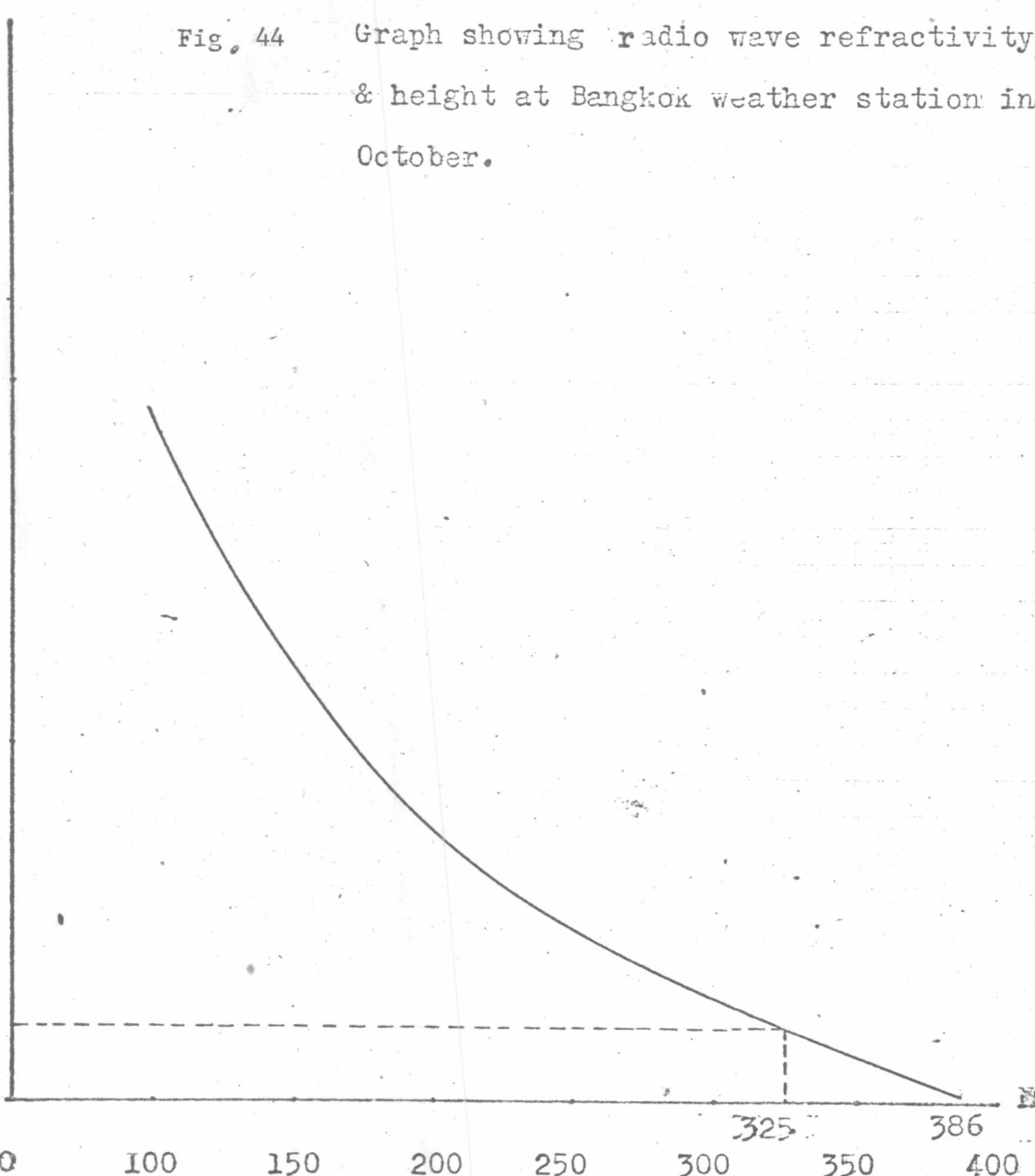
400

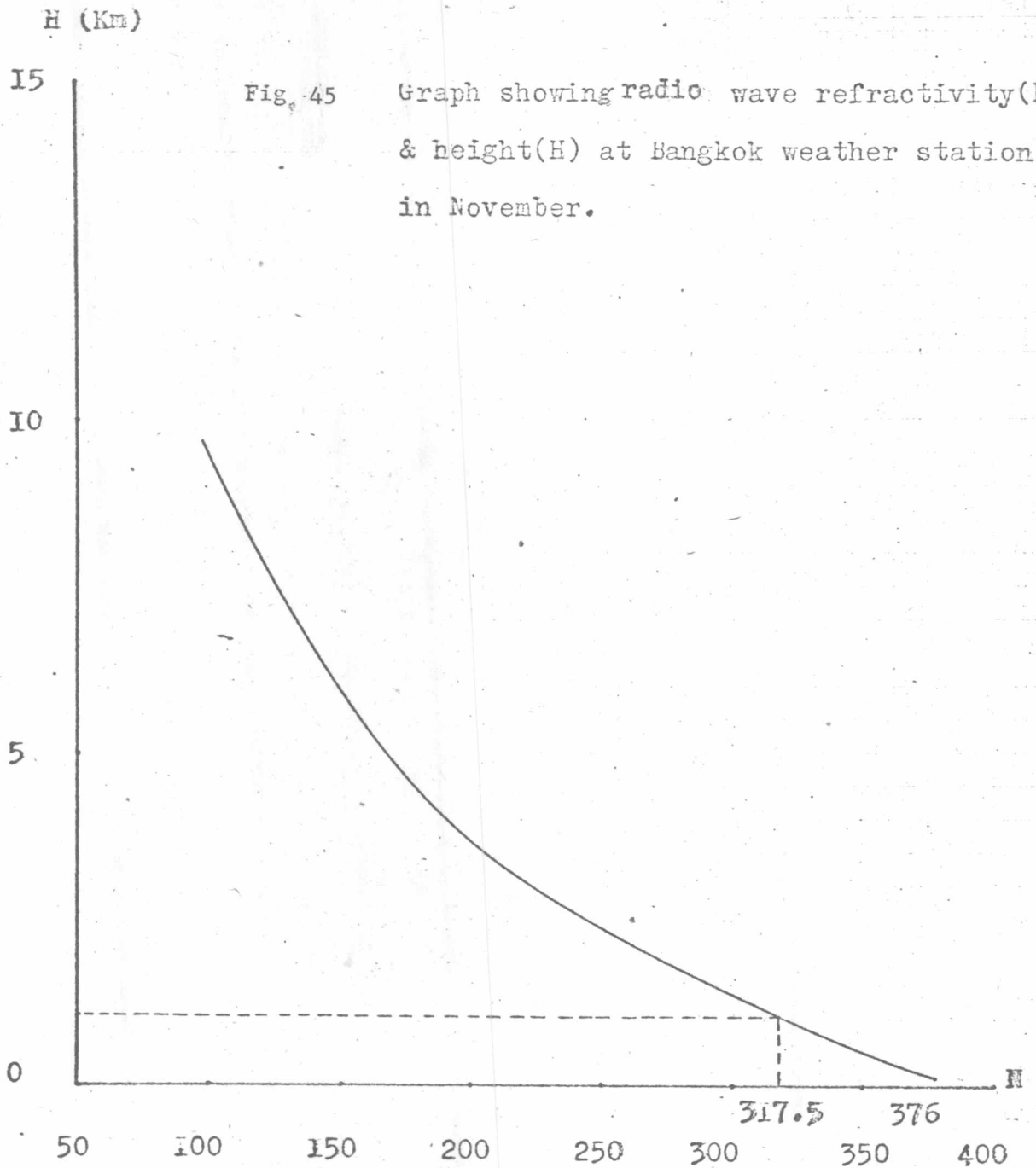
$$\Delta N = 61, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 \cdot (-61) \cdot 10^{-6}} = 1.64$$

$$\exp(-b) = 1 + \frac{61}{386} = 1.1580$$

$$b = -0.1467$$



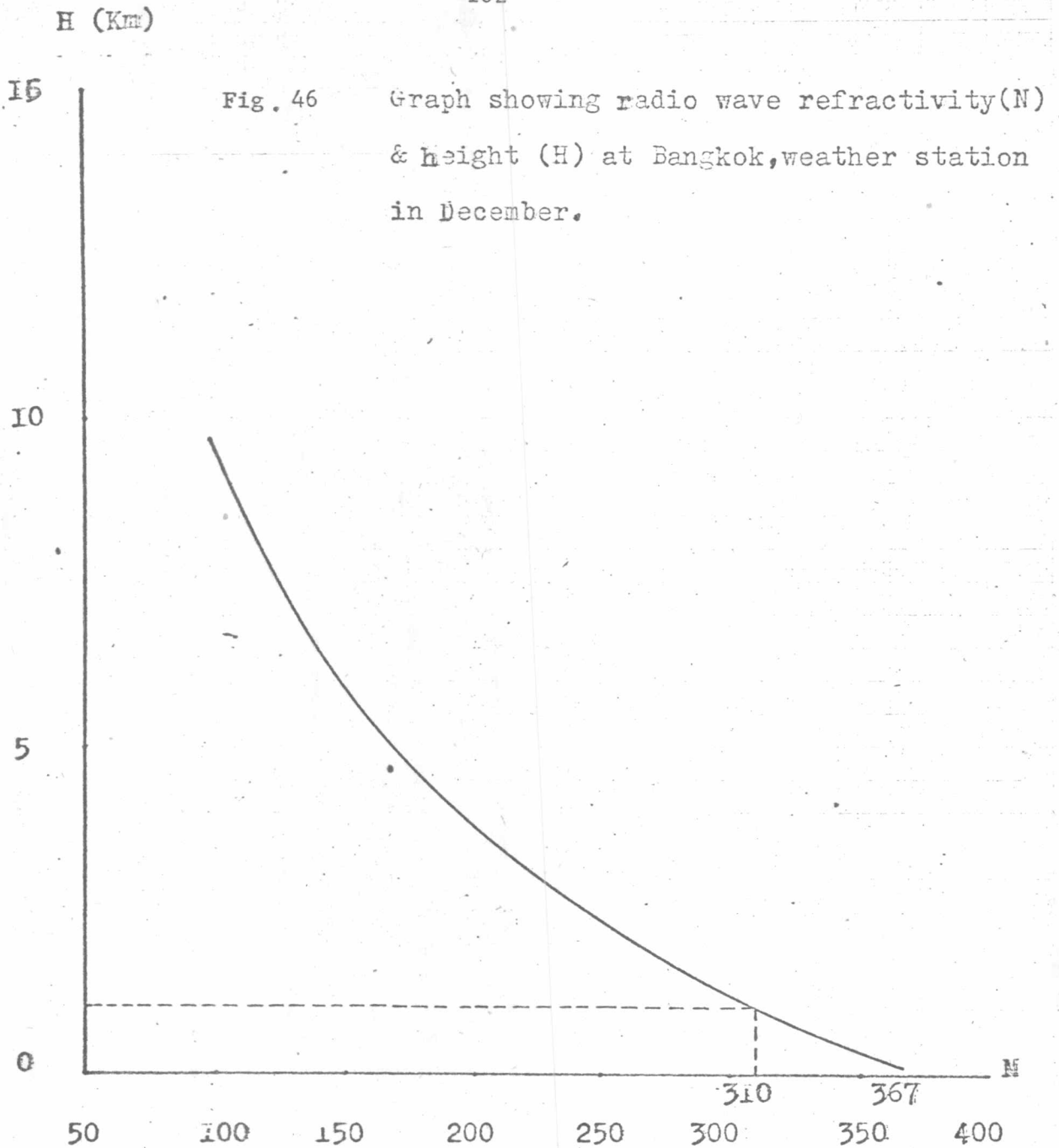


$$\Delta N = 58.8, \quad \Delta H = -1 \text{ KM.}$$

$$K = \frac{1}{1 + 6370 (-58.8) 10^{-6}} = 1.59$$

$$\exp(-b) = 1 + \frac{58.8}{376} = 1.1556$$

$$b = -0.1446$$



$$\Delta N = 57, \quad \Delta H = -1 \text{ Km.}$$

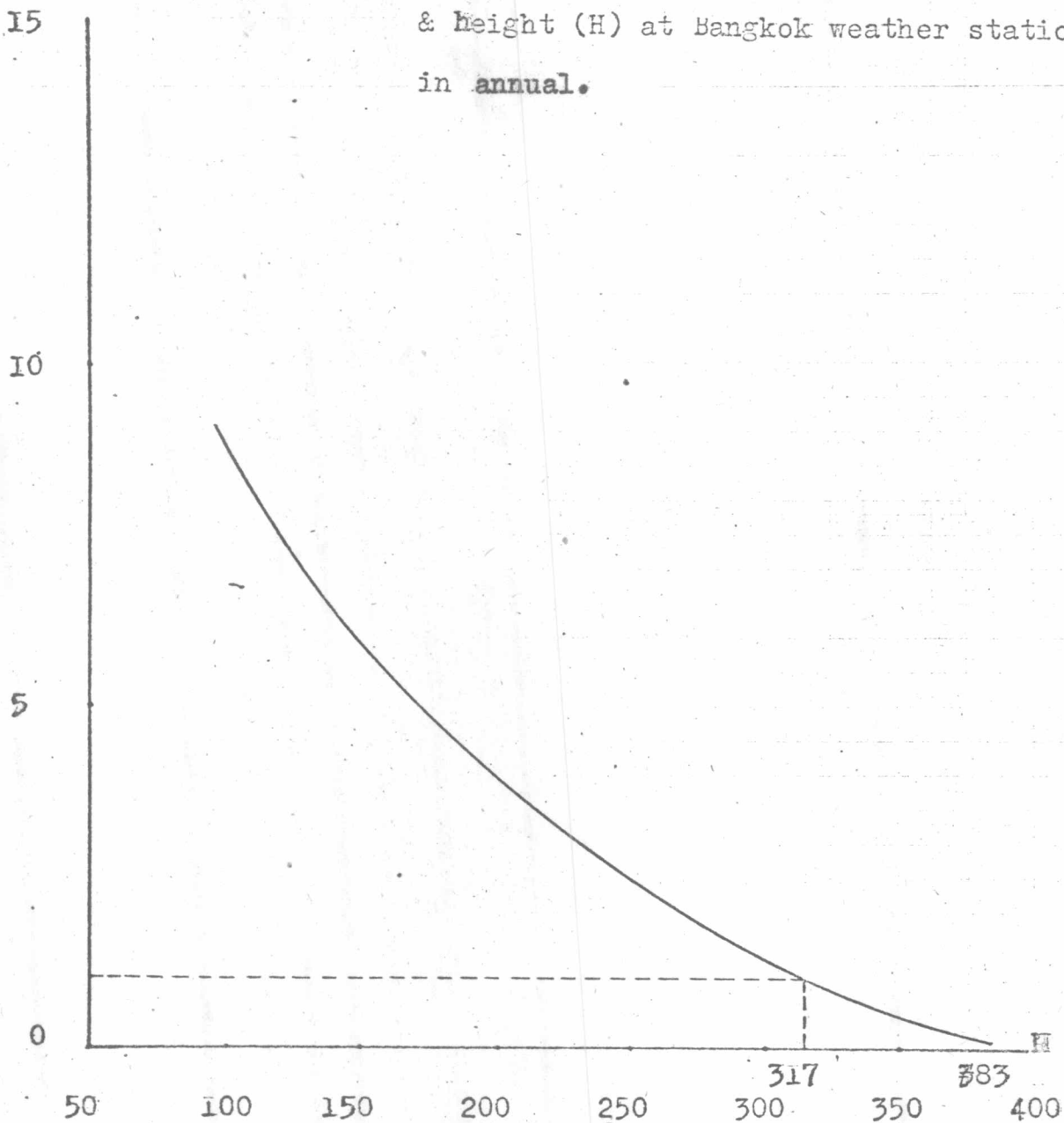
$$K = \frac{1}{1 + 6370 (-57) \cdot 10^{-6}} = 1.57$$

$$\exp(-b) = 1 + \frac{57}{367} = 1.1533$$

$$b = -0.14436$$

H (Km)

Fig. 47. Graph showing radio wave refractivity (N) & Height (H) at Bangkok weather station in annual.



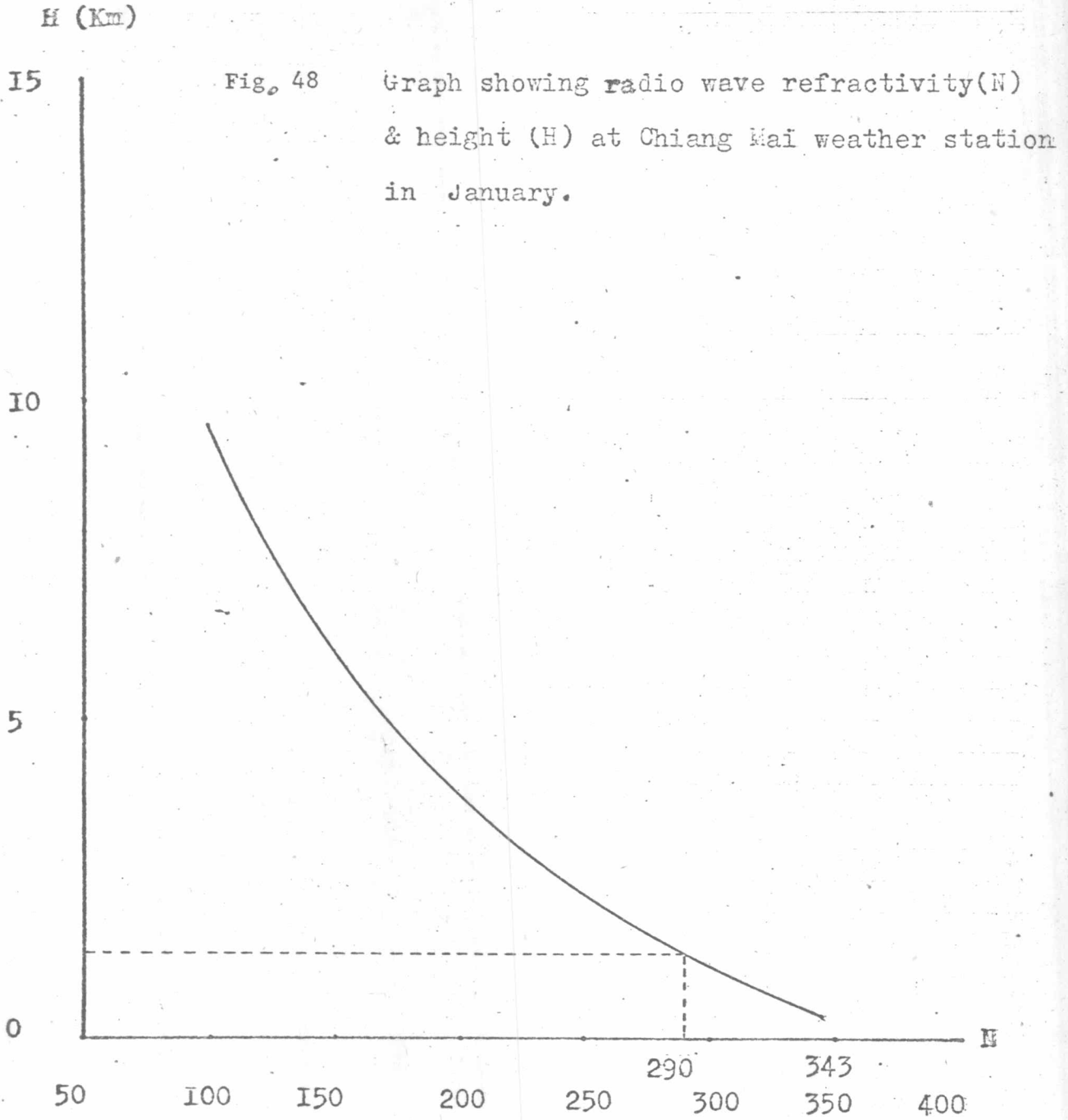
$$\Delta N = 66, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-66) * 10^{-6}} = 1.72$$

$$\exp(-b) = 1 + \frac{66}{383} = 1.1723$$

$$b = -0.1590$$



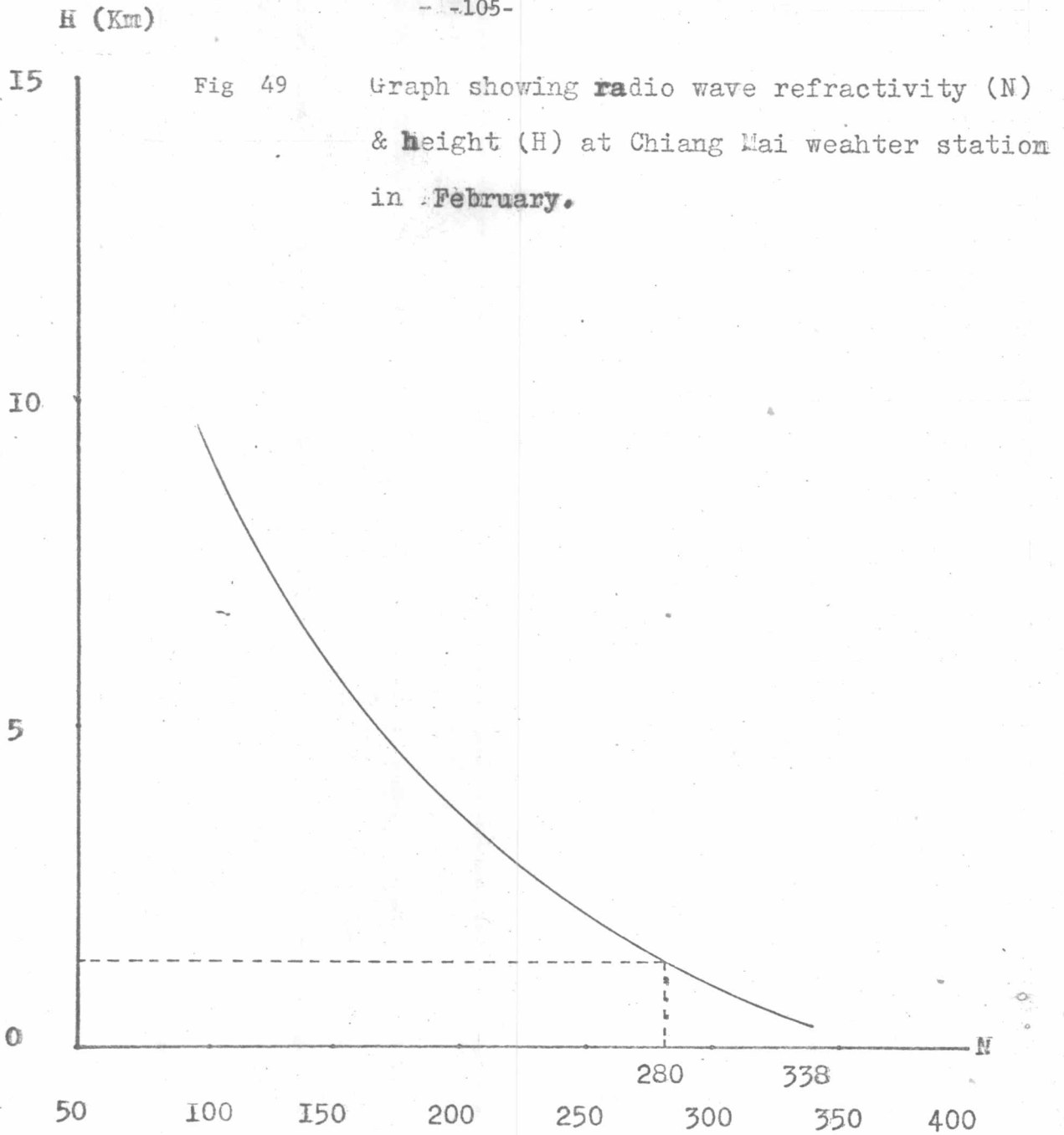


$$\Delta N = 53, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370(-53) \times 10^{-6}} = 1.51$$

$$\exp(-b) = 1 + \frac{53}{343} = 1.1545$$

$$b = -0.1437$$



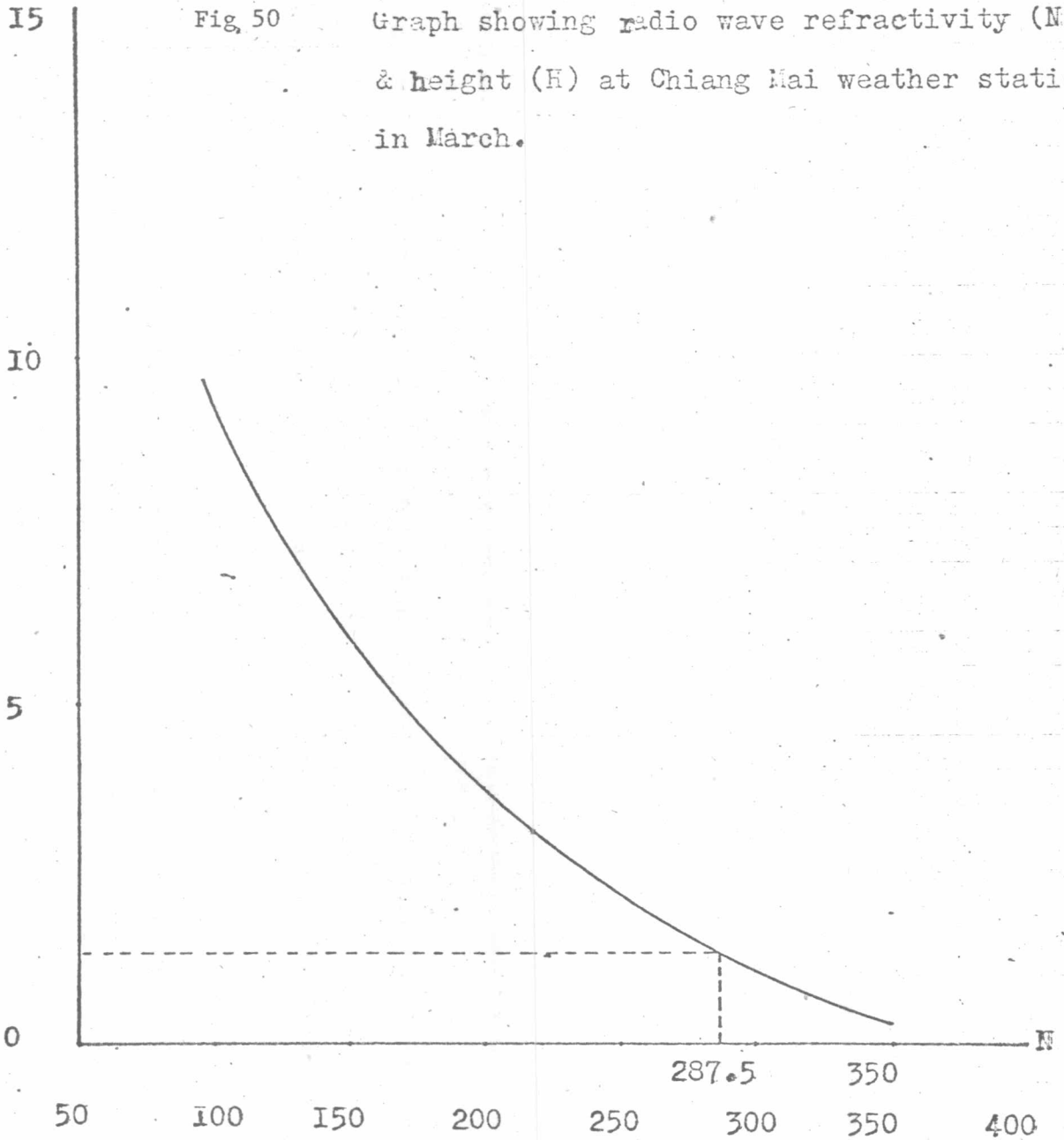
$$\Delta N = 58, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370(-58) * 10^{-6}} = 1.59$$

$$\exp(-b) = 1 + \frac{58}{338} = 1.1716$$

$$b = -0.1584$$

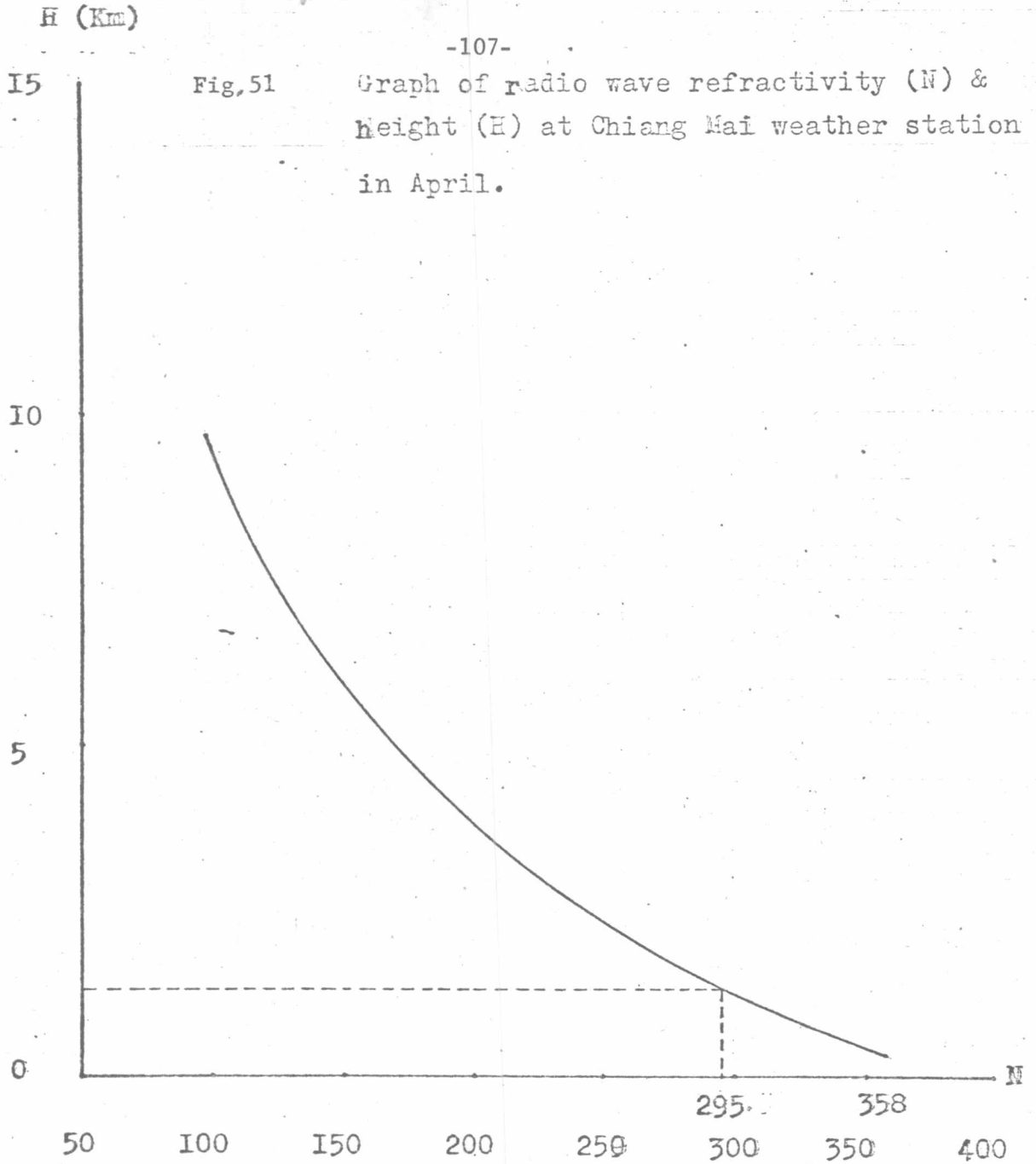
H (Km)



$$\Delta N = 62.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-62.5) \times 10^{-6}} = 1.56$$

$$\exp(-b) = 1 + \frac{62.5}{350} = 1.1786$$



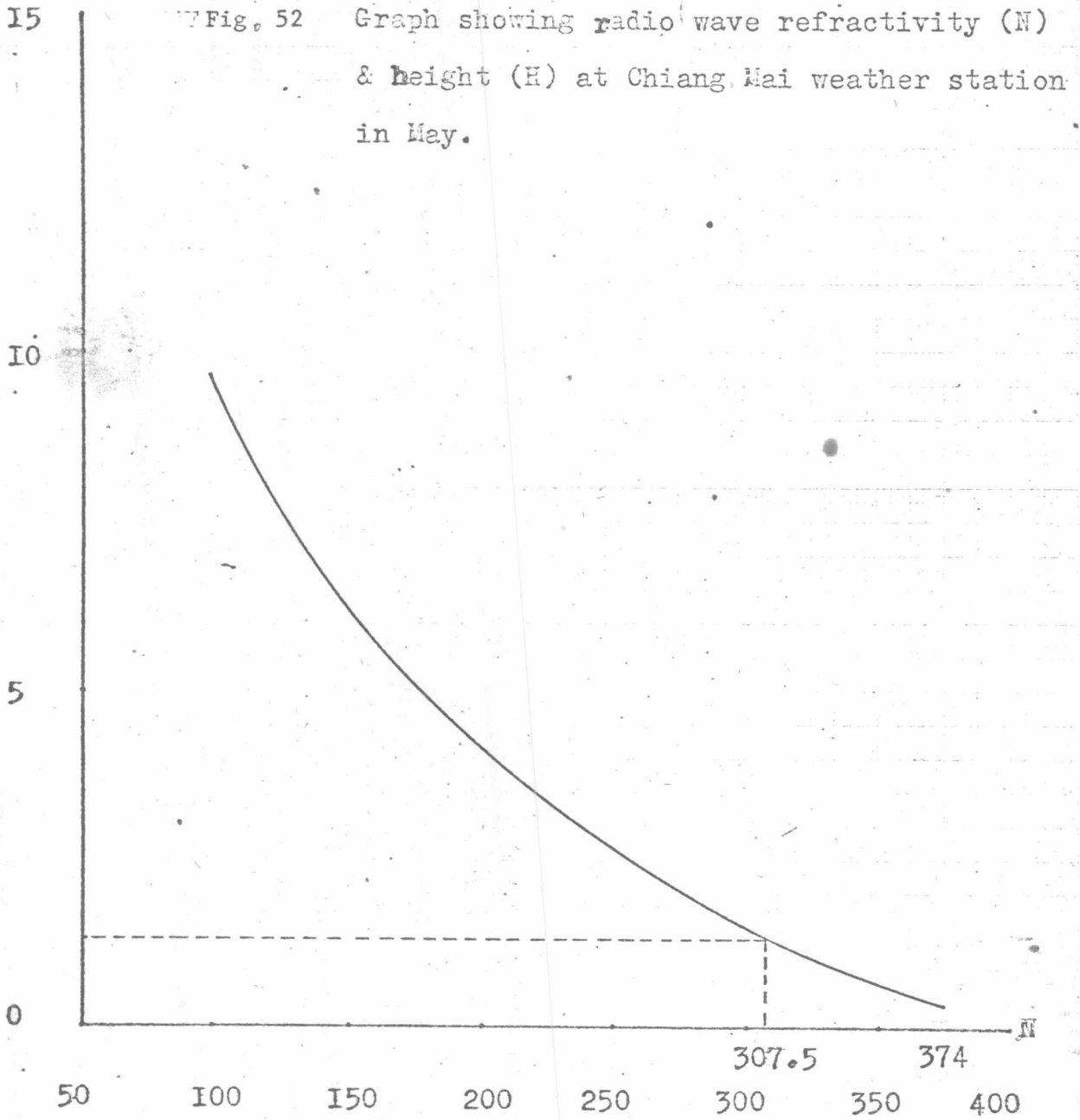
$$\Delta N = 63, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370(-63) * 10^{-6}} = 1.67$$

$$\exp(-b) = 1 + \frac{63}{358} = 1.1760$$

$$b = -0.1621$$

H (Km)



$$\begin{aligned} \Delta N &= 66.5, & \Delta H &= -1 \text{ Km.} \\ K &= \frac{1}{1 + 6370 \frac{1}{(-66.5) * 10^{-6}}} = 1.73 \\ \exp(-b) &= 1 + \frac{66.5}{374} = 1.1778 \\ b &= -0.1637 \end{aligned}$$

H (Km)

15

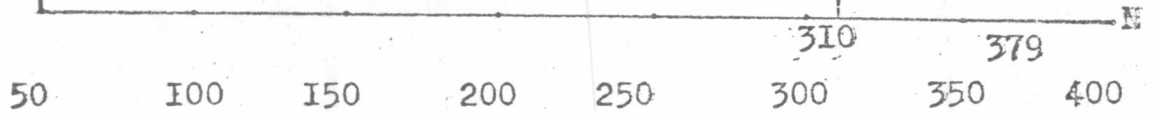
Fig.53

Graph showing radio wave refractivity (N) & height (N) at Chiang Mai weather station in June.

10

5

0



$$\Delta N = 69, \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-69) * 10^{-6}} = 1.78$$

$$\exp(-b) = 1 + \frac{69}{379} = 1.1821$$

$$b = -0.1673$$

H (Km)

-110-

15

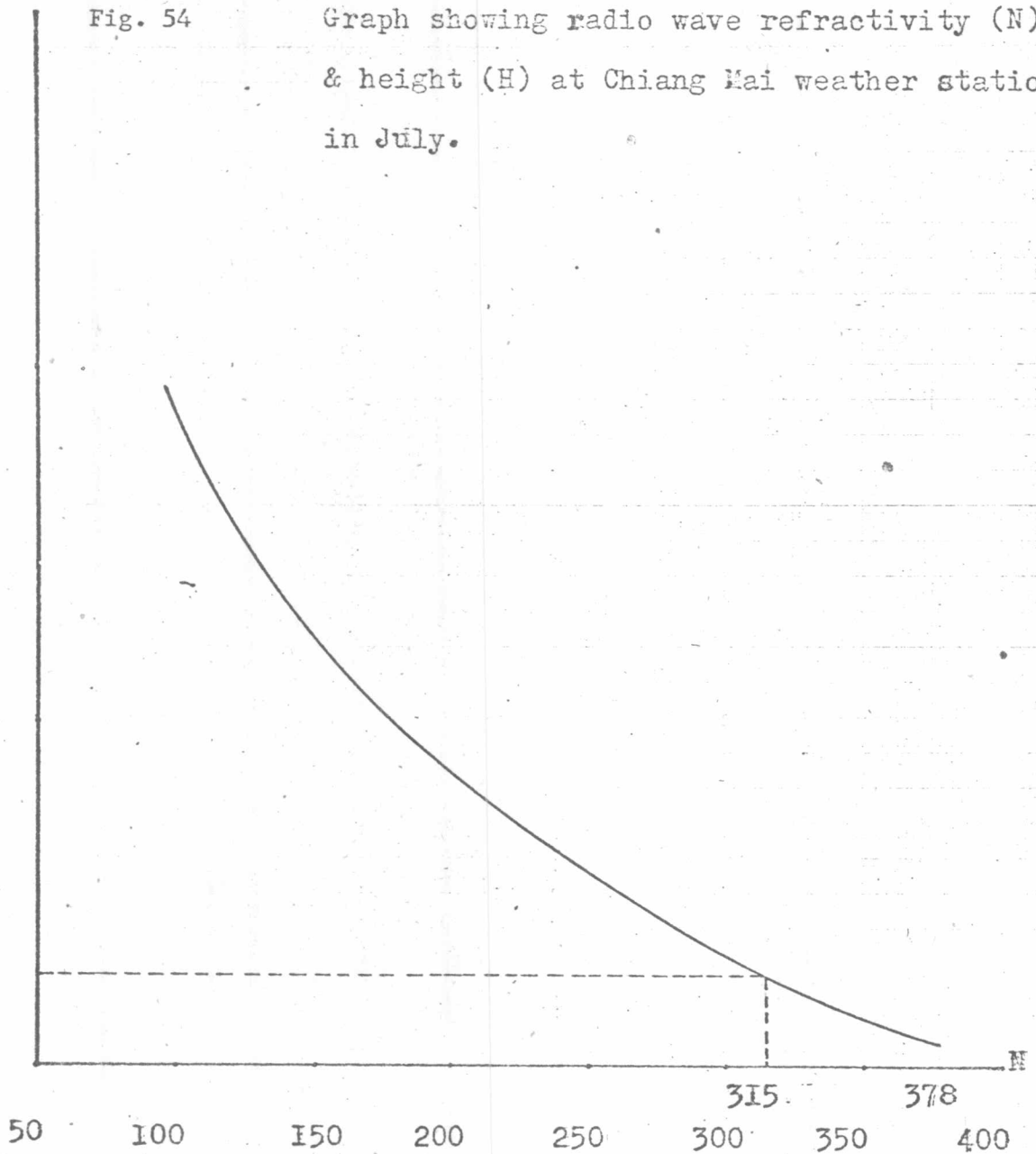
Fig. 54

Graph showing radio wave refractivity (N) & height (H) at Chiang Mai weather station in July.

10

5

0



$$\begin{aligned} \Delta N &= 63, & \Delta H &= -1 \text{ Km.} \\ K &= \frac{1}{1 + 6370 (-63) * 10^{-6}} = 1.67 \\ \exp(-b) &= 1 + \frac{63}{378} = 1.1667 \\ b &= -0.1542 \end{aligned}$$

H (Km)

-111-

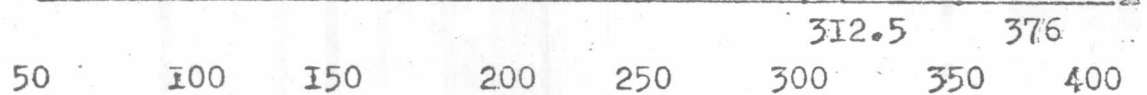
15

Fig . 55 Graph showing radio wave refractivity (N) & height (H) at Chiang Mai weather station in August.

10

5

0



50

100

150

200

250

300

350

400

$$\Delta N = 63.5 \quad , \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-63.5) * 10^{-6}} = 1.68$$

$$\exp(-b) = 1 + \frac{63.5}{376} = 1.1689$$

$$b = -0.1561$$



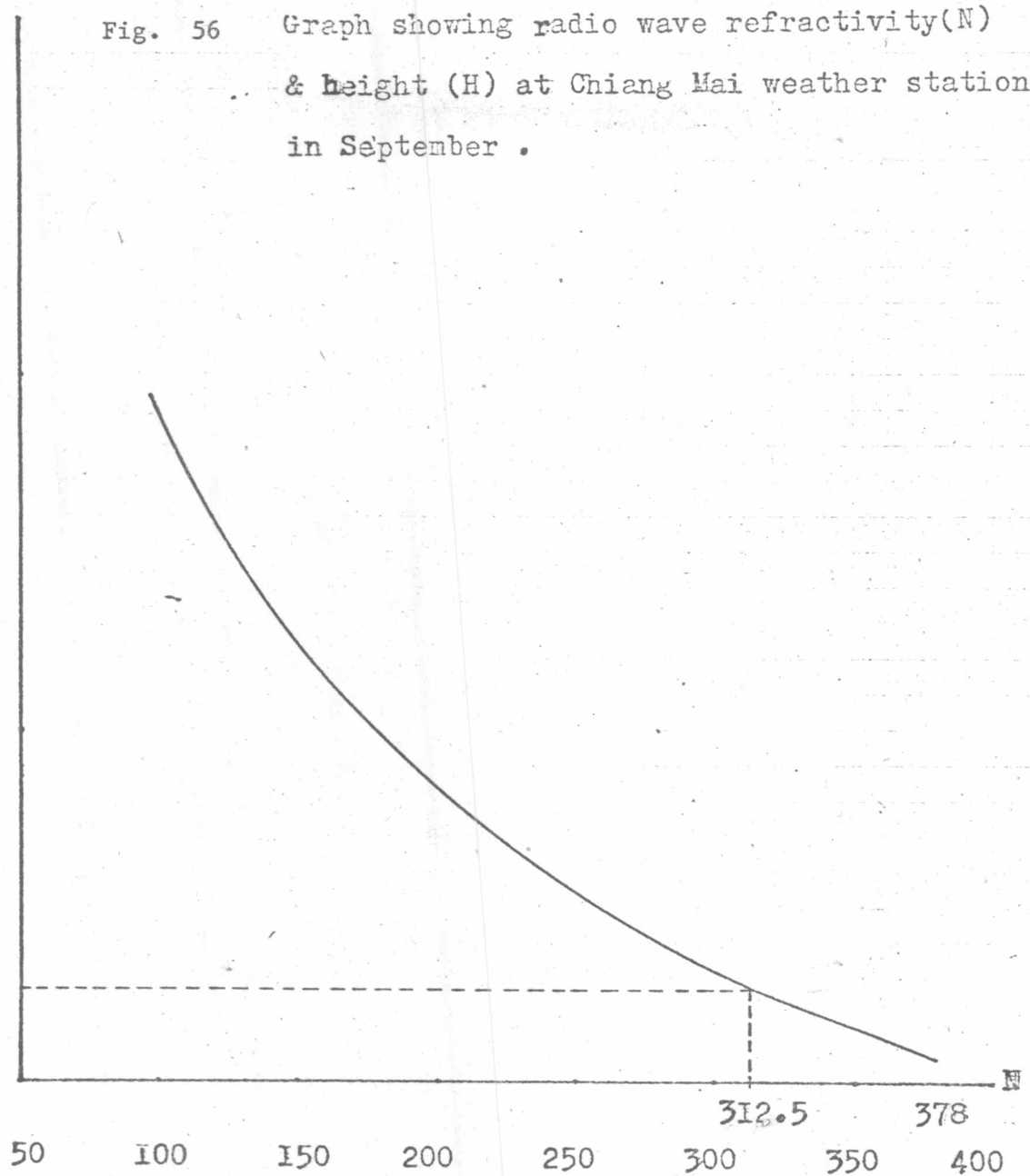
15

Fig. 56 Graph showing radio wave refractivity (N) & height (H) at Chiang Mai weather station in September .

10

5

0



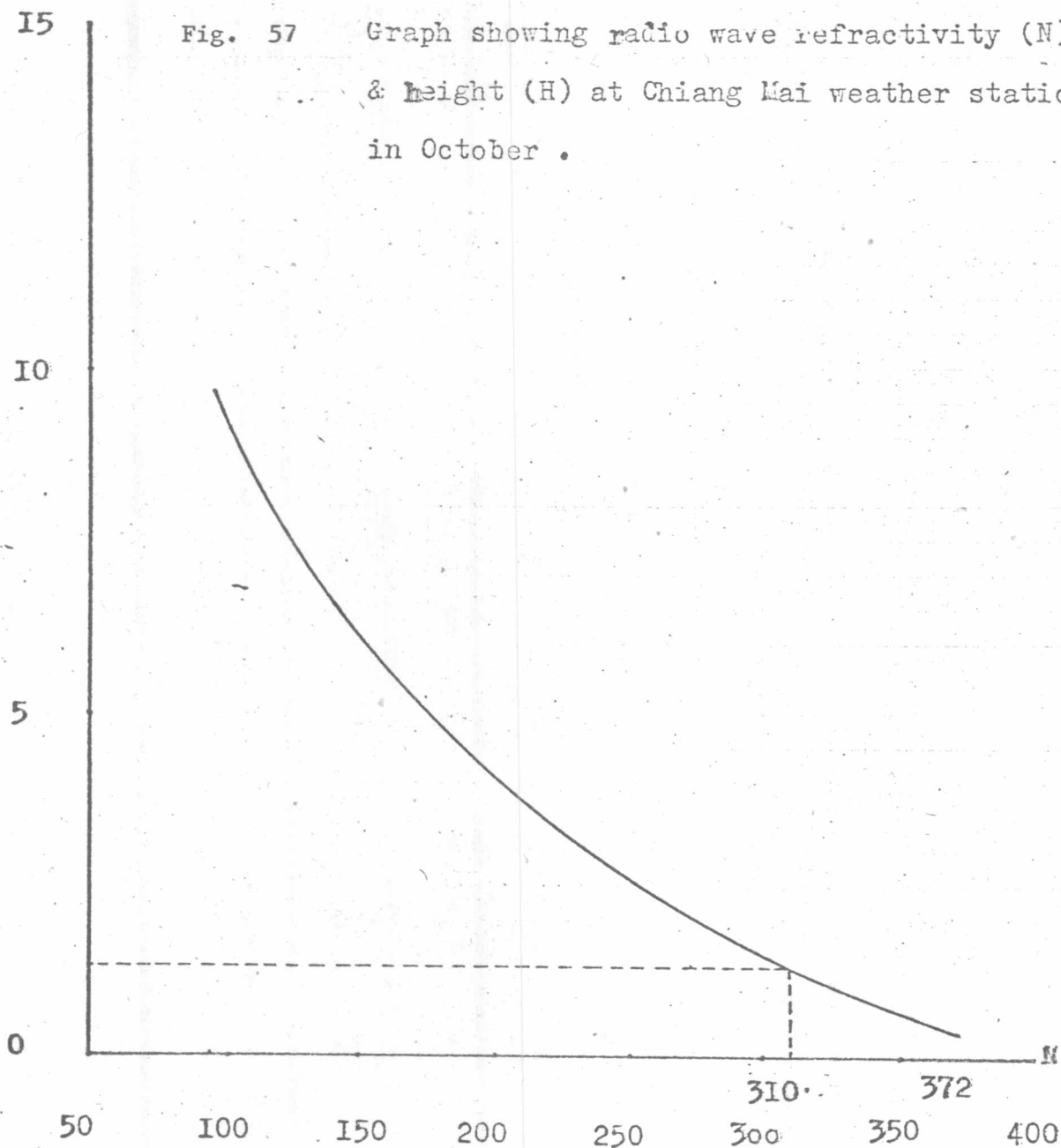
$$\Delta N = 65.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-65.5) * 10^{-6}} = 1.72$$

$$\exp(-b) = 1 + \frac{65.5}{378} = 1.1733$$

$$b = -0.1598$$

Fig. 57 Graph showing radio wave refractivity (N) & height (H) at Chiang Mai weather station in October .



$$\Delta N = 62, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-62) * 10^{-6}} = 1.65$$

$$\exp(-b) = 1 + \frac{62}{372} = 1.1667$$

$$b = -0.1542$$

H (Km)

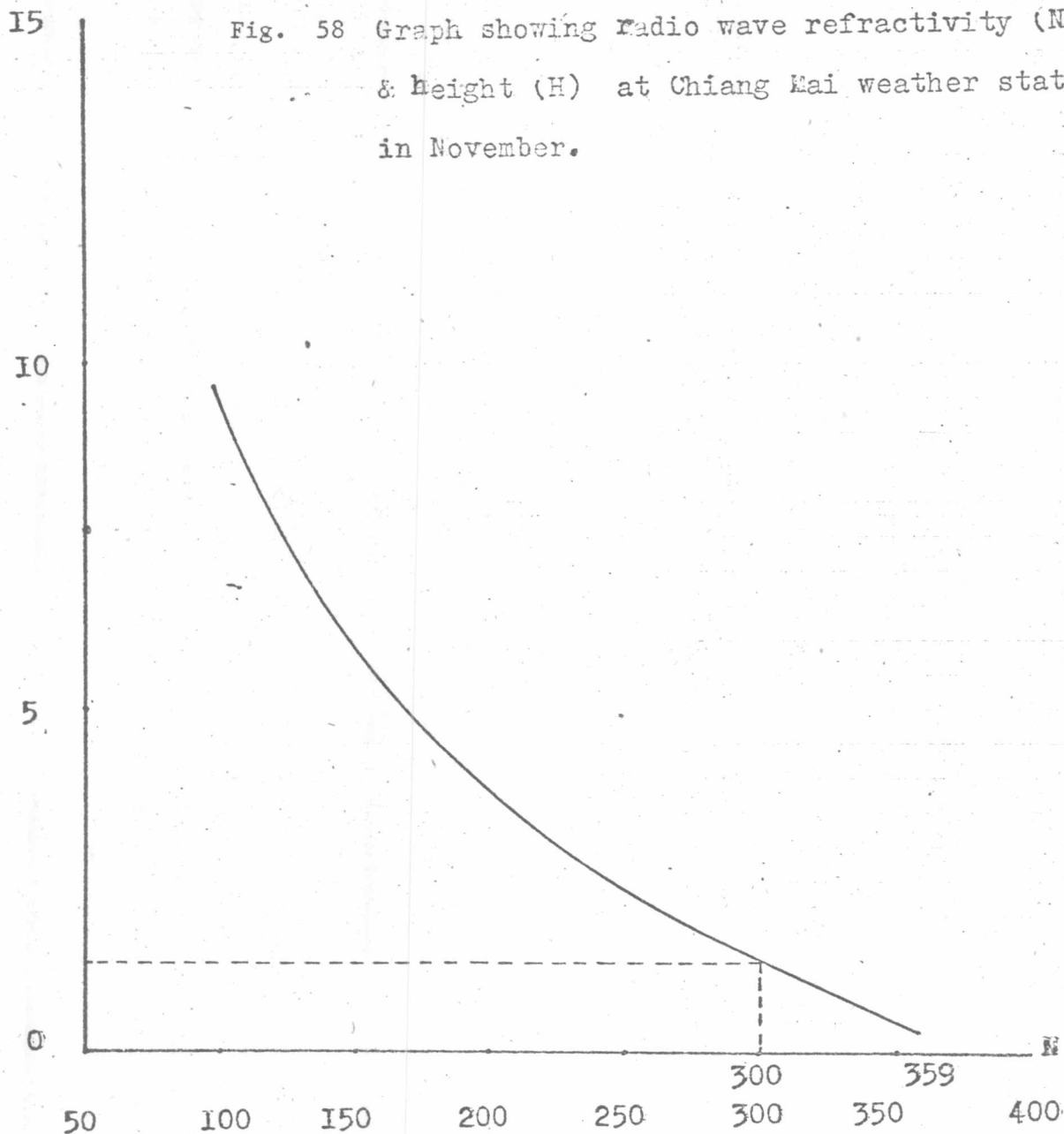


Fig. 58 Graph showing radio wave refractivity (N) & height (H) at Chiang Mai weather station in November.

$$\Delta N = 59, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-59) * 10^{-6}} = 1.61$$

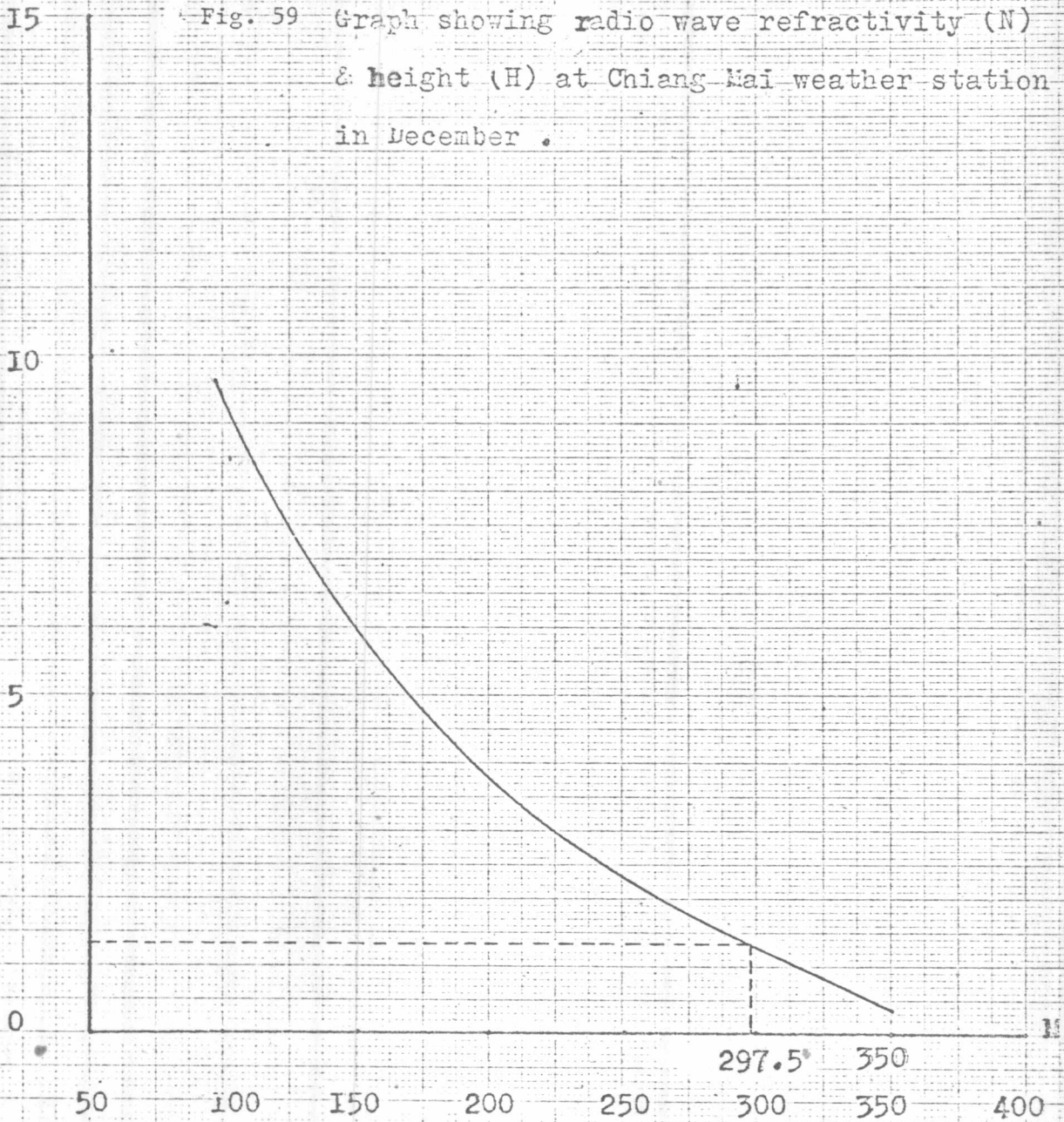
$$\exp(-b) = 1 + \frac{59}{359} = 1.1644$$

$$b = -0.1522$$

H (Km)

-115-

Fig. 59 Graph showing radio wave refractivity (N) & height (H) at Chiang Mai weather station in December .



$$\Delta N = 52.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370(-52.5) \cdot 10^{-6}} = 1.50$$

$$\exp(-b) = 1 + \frac{52.5}{350} = 1.15$$

$$b = -0.1398$$

H (Km)

-116-

15

Fig. 60 Graph showing radio wave refractivity (N) & height (H) at Chiang Mai weather station in annual.

10

5

0

50 100 150 200 250 300 350 400

297.5 361

$$\Delta N = 63.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-63.5) * 10^{-6}} = 1.68$$

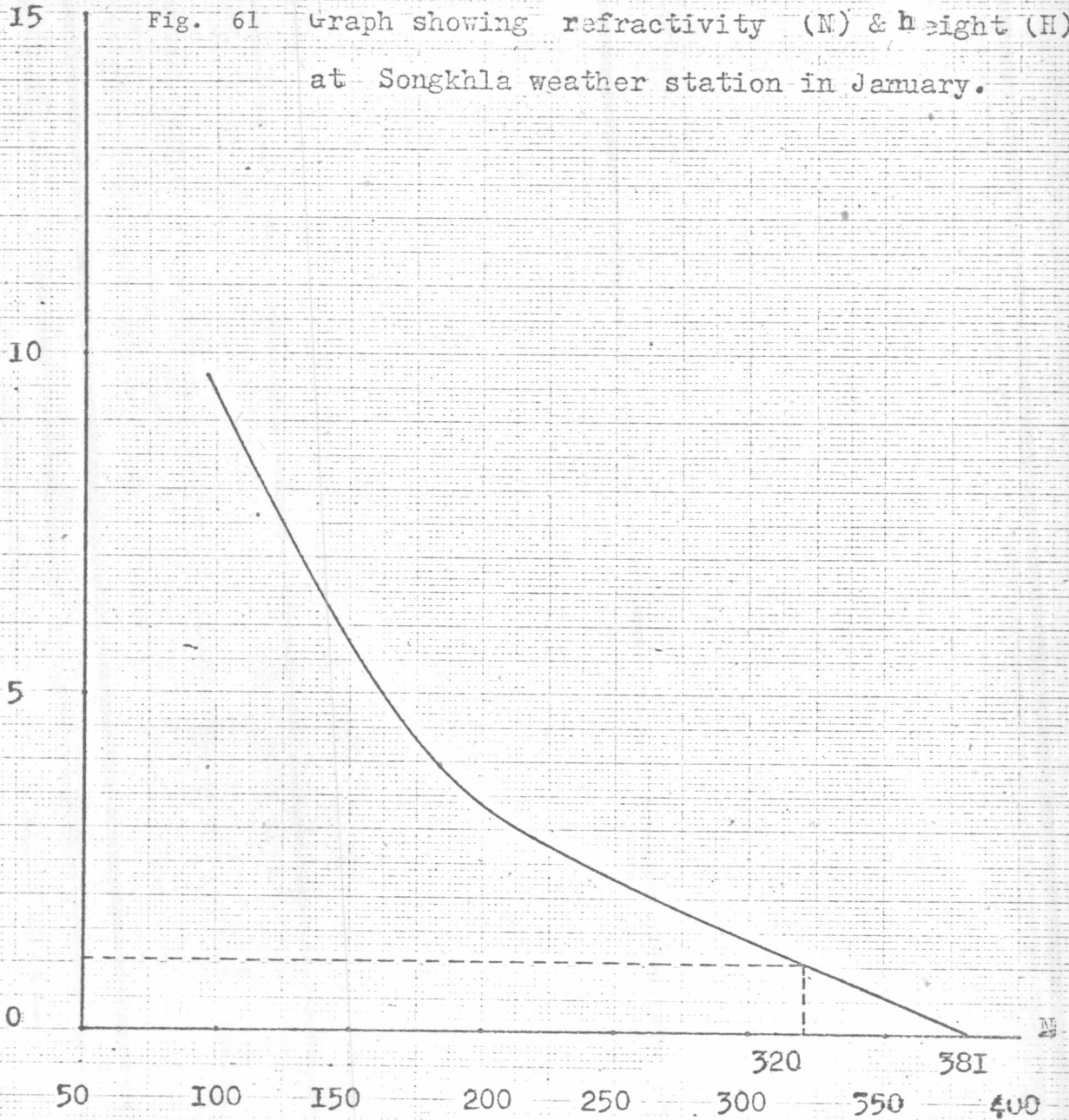
$$\exp(-b) = 1 + \frac{63.5}{361} = 1.1759$$

$$b = -0.162$$

H (Km)

-117-

Fig. 61 Graph showing refractivity (N) & height (H) at Songkhla weather station in January.



$$\Delta N = 61, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-61) * 10^{-6}} = 1.64$$

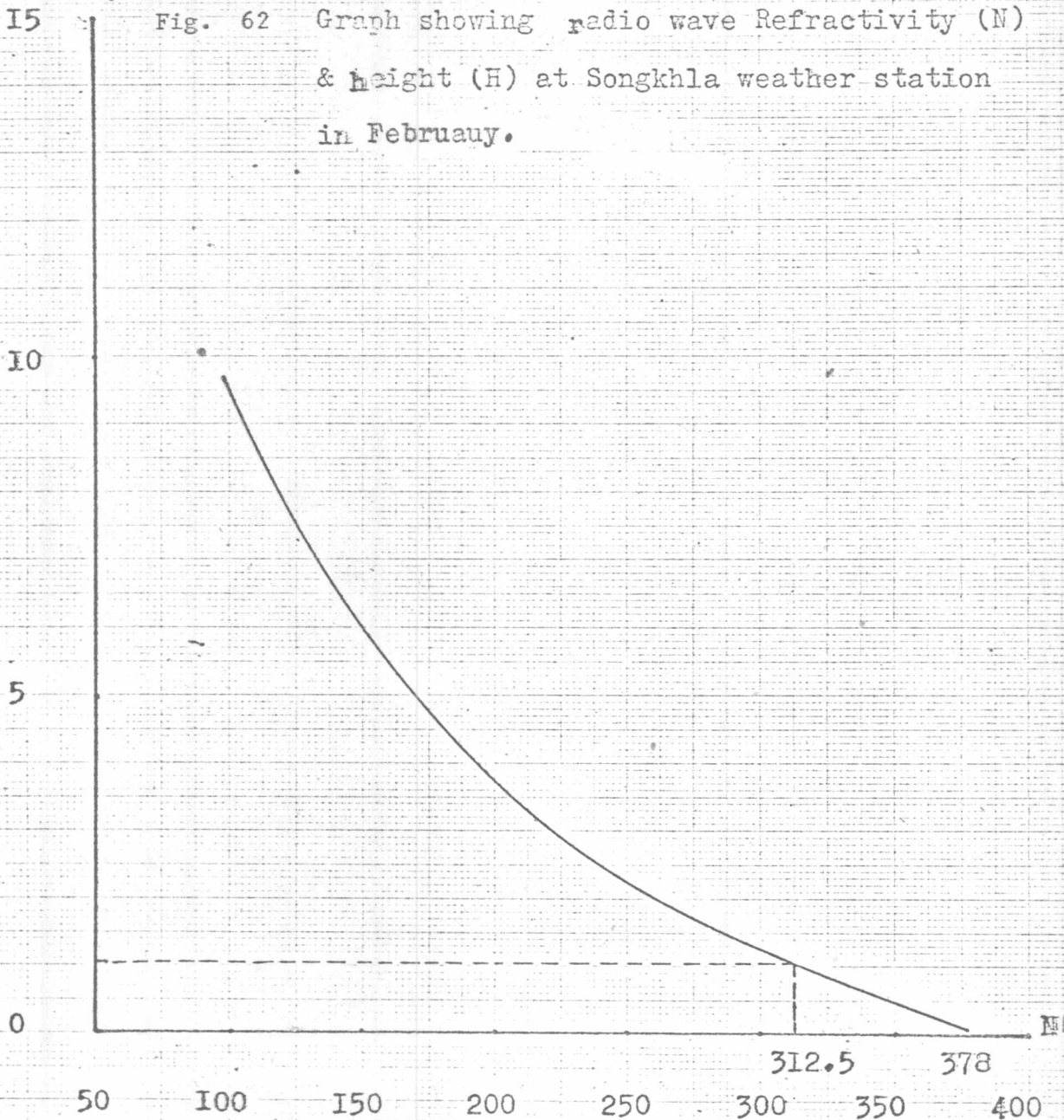
$$\exp(-b) = 1 + \frac{61}{381} = 1.1601$$

$$b = -0.1485$$

H (Km)

-118-

Fig. 62 Graph showing radio wave Refractivity (N) & height (H) at Songkhla weather station in February.



$$\Delta N = 65.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 \cdot (-65.5) \cdot 10^{-6}} = 1.72$$

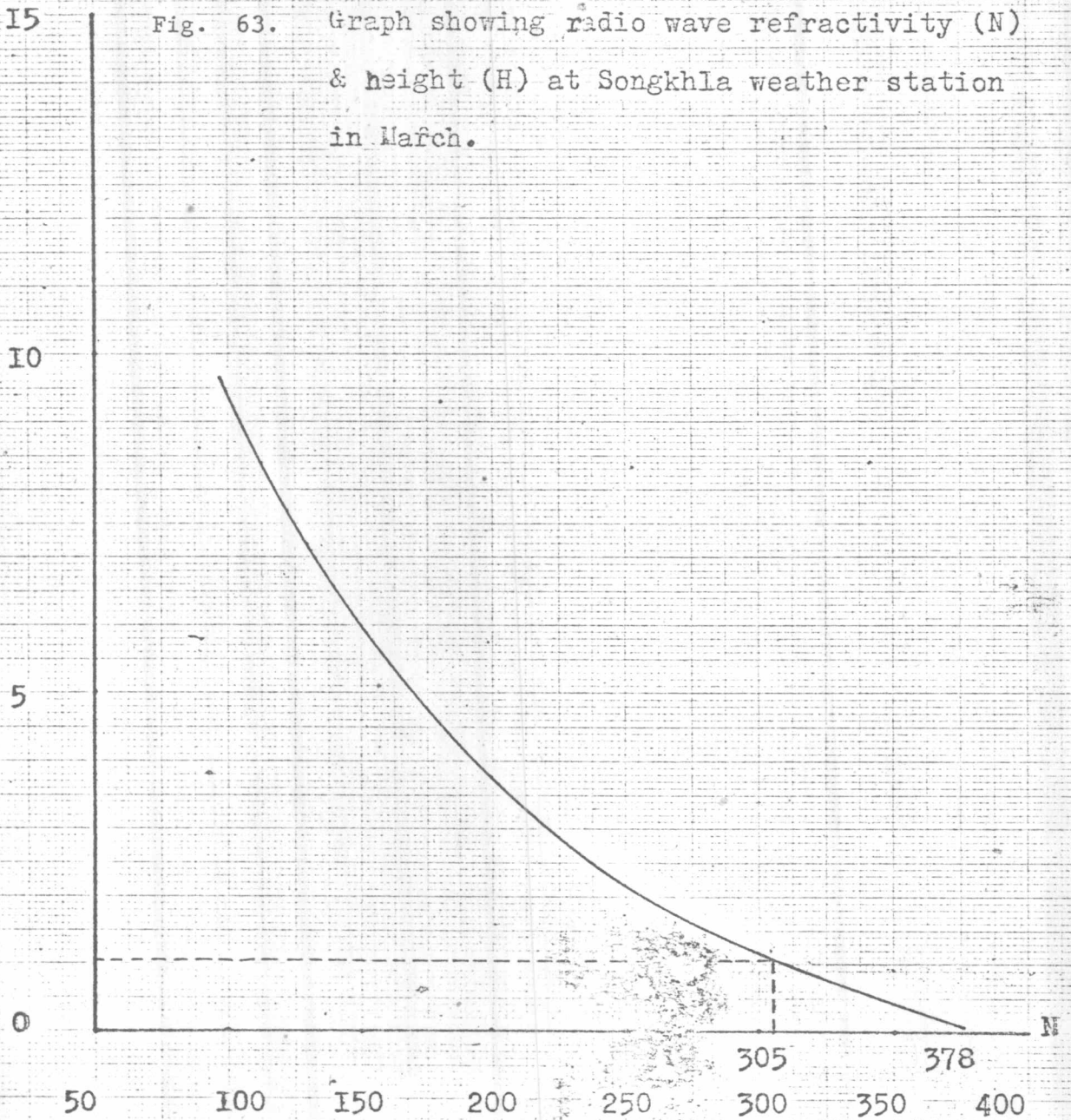
$$\exp(-b) = 1 + \frac{65.5}{378} = 1.1733$$

$$b = -0.1598$$

H (Km)

-119-

Fig. 63. Graph showing radio wave refractivity (N) & height (H) at Songkhla weather station in March.



$$\Delta N = 73, \quad \Delta H = -1 \text{ Km.}$$

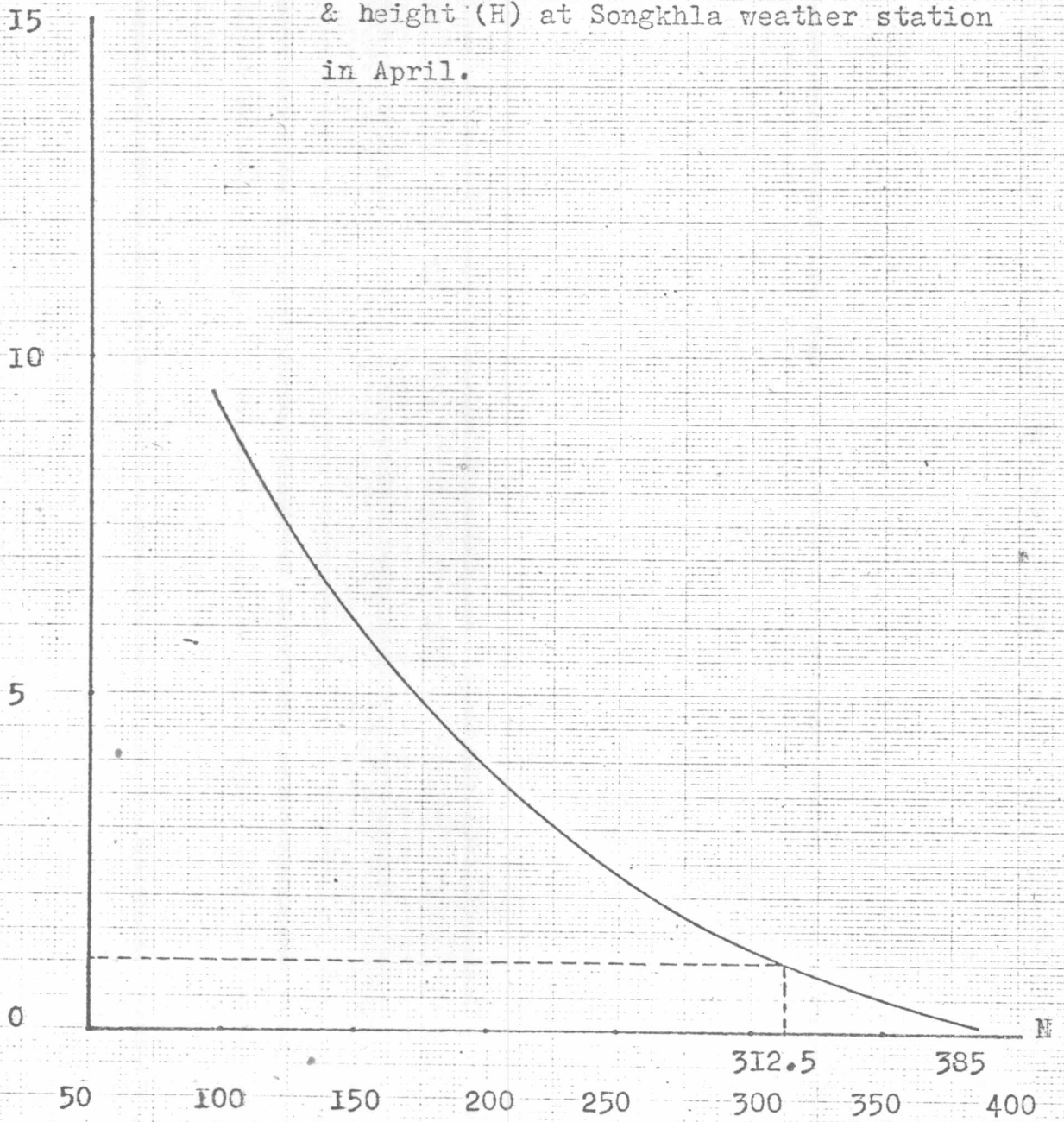
$$K = \frac{1}{1 + 6370 (-73) * 10^{-6}} = 1.87$$

$$\exp(-b) = 1 + \frac{73}{378} = 1.1931$$

$$b = -0.1766$$



H (Km) Fig. 64 Graph showing radio wave refractivity (N) & height (H) at Songkhla weather station in April.



$$\Delta N = 72.5, \quad \Delta H = -1 \text{ Km.}$$

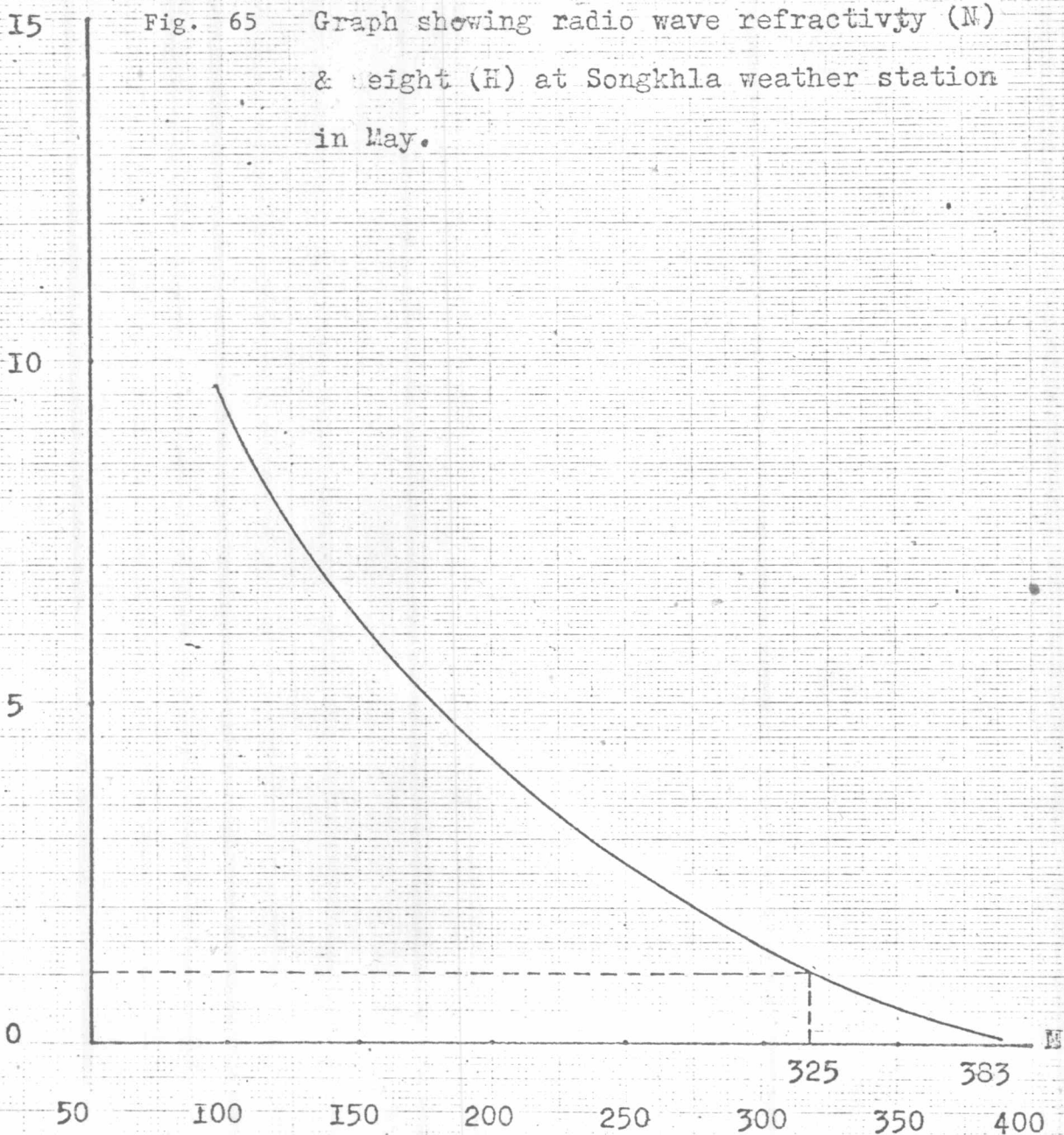
$$K = \frac{1}{1 + 6370 (-72.5) \cdot 10^{-6}} = 1.86$$

$$\exp(-b) = 1 + \frac{72.5}{385} = 1.1883$$

$$b = -0.1725$$

H (Km)

-121-



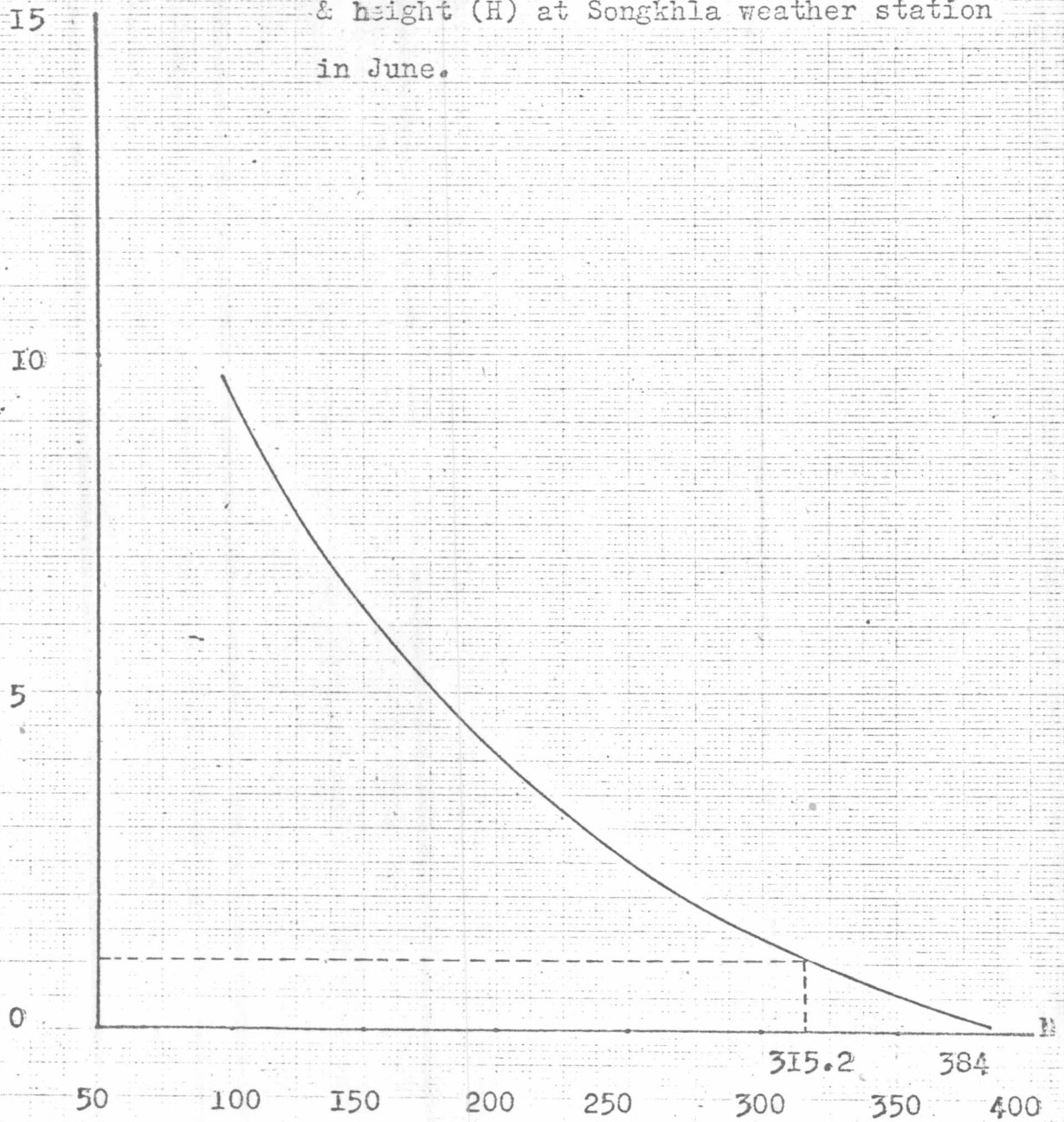
$$\Delta N = 65.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-65.5) \cdot 10^{-6}} = 1.72$$

$$\exp(-b) = 1 + \frac{65.5}{383} = 1.1710$$

$$b = -0.1579$$

H (Km) Fig.66 Graph showing radio wave refractivity (N) & height (H) at Songkhla weather station in June.



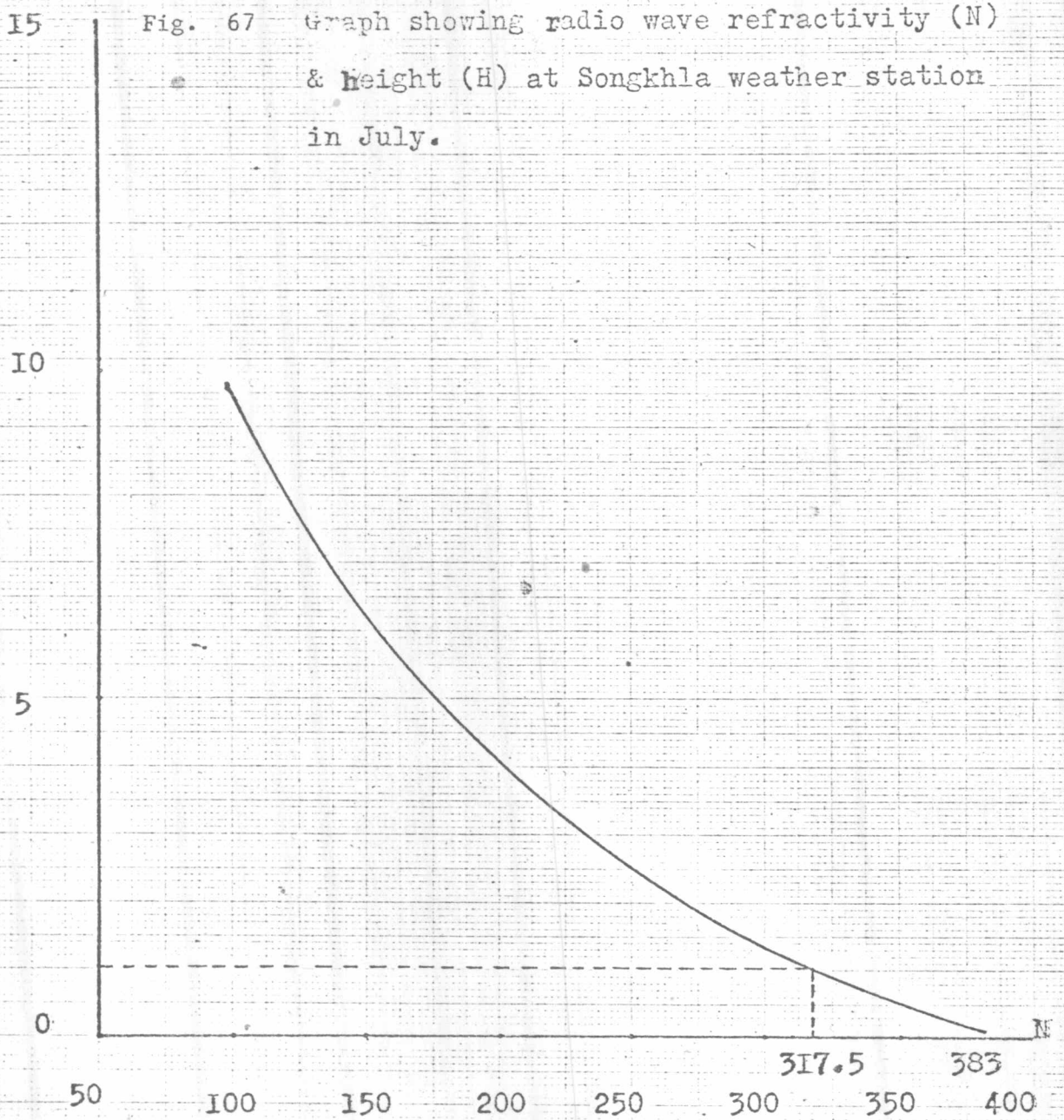
$$\Delta N = 68.8, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-68.8) * 10^{-6}} = 1.78$$

$$\exp(-b) = 1 + \frac{68.8}{384} = 1.1792$$

$$b = -0.1648$$

H (Km)



$$\Delta N = 65.5 \quad , \quad \Delta H = -1 \text{ Km.}$$

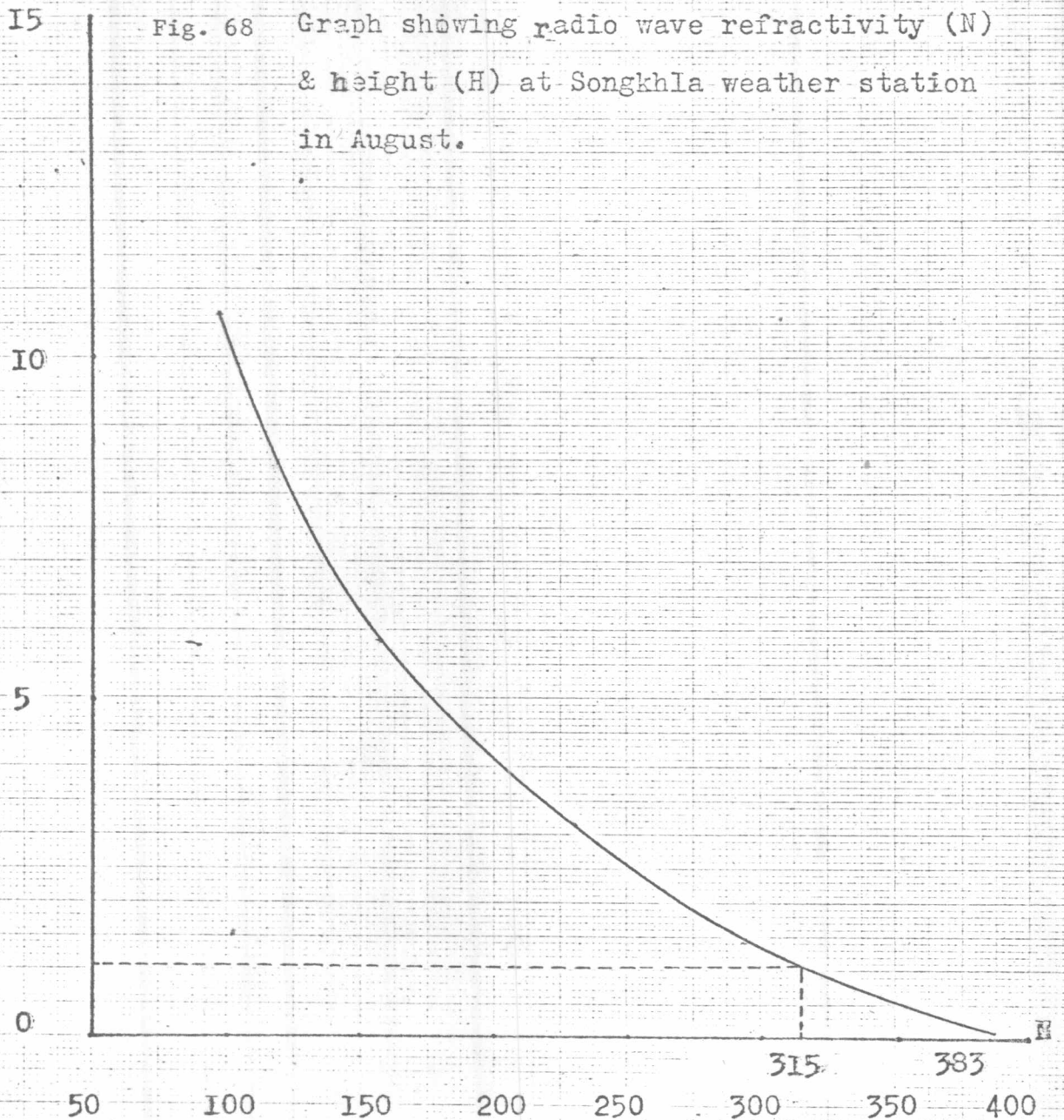
$$K = \frac{1}{1 + 6370 \cdot (-65.5) \cdot 10^{-6}} = 1.72$$

$$\exp(-b) = 1 + \frac{65.5}{383} = 1.171$$

$$b = -0.1579$$

H (Km)

-124-



$$\Delta N = 68, \quad \Delta H = -1 \text{ Km.}$$

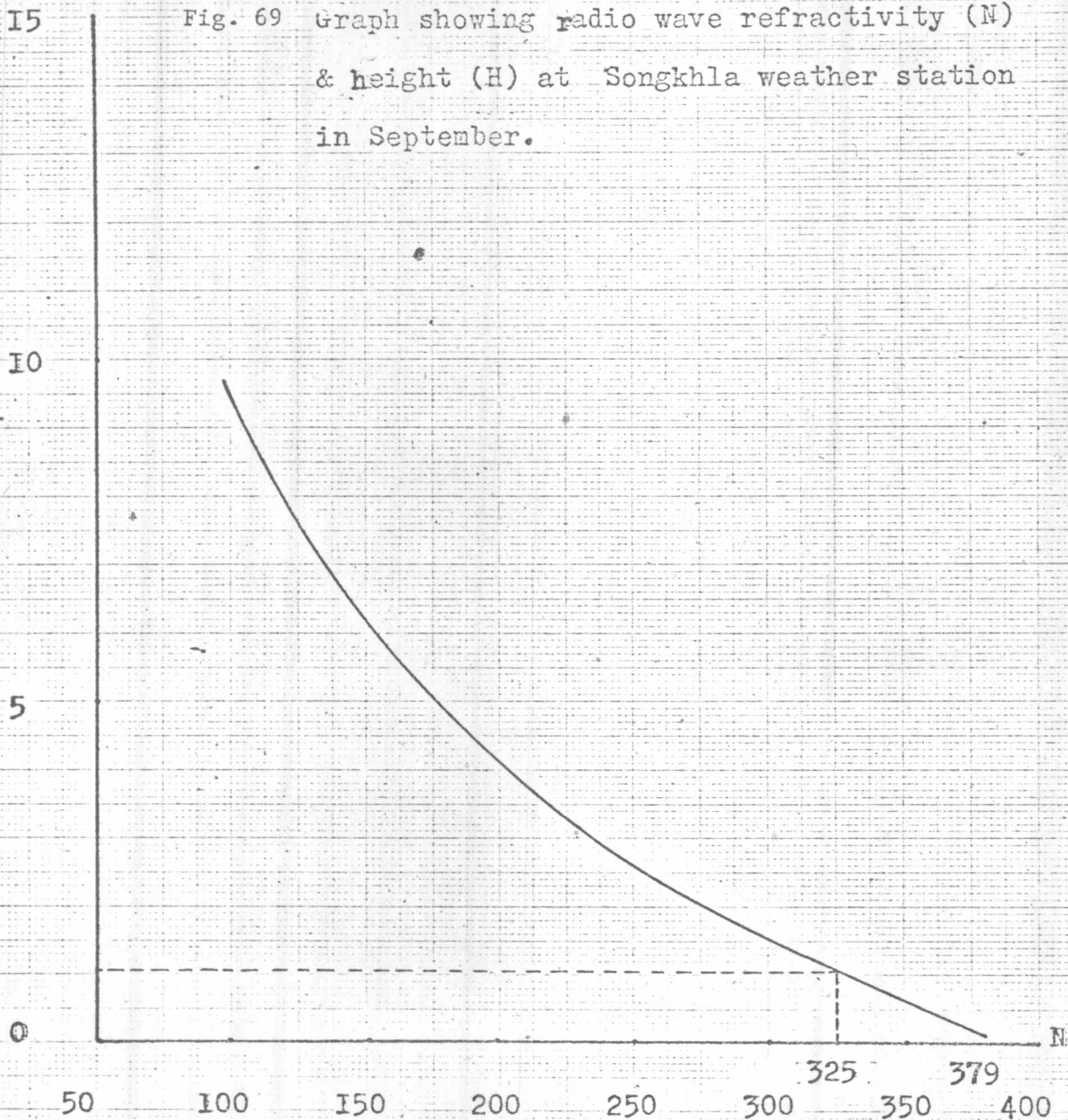
$$K = \frac{1}{1 + 6370 (-68) * 10^{-6}} = 1.76$$

$$\exp(-b) = 1 + \frac{68}{383} = 1.1776$$

$$b = -0.1634$$

H (Km)

Fig. 69 Graph showing radio wave refractivity (N) & height (H) at Songkhla weather station in September.



$$\Delta N = 54, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-54) * 10^{-6}} = 1.52$$

$$\exp(-b) = 1 + \frac{54}{379} = 1.1425$$

$$b = -0.1332$$

H (Km)

15

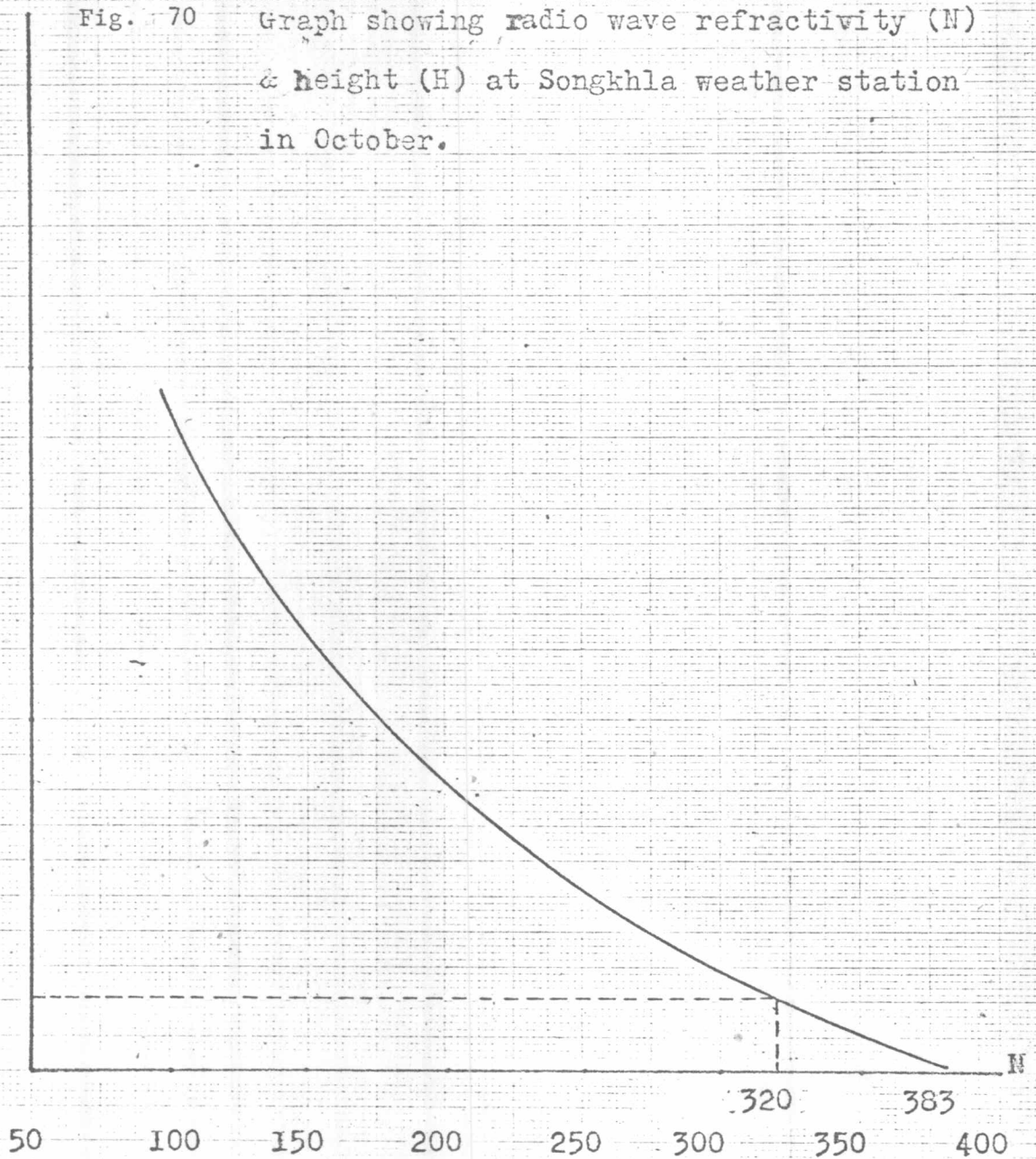
Fig. 70

Graph showing radio wave refractivity (N) & height (H) at Songkhla weather station in October.

10

5

0



$$\Delta N = 63, \quad \Delta H = -1 \text{ Km.}$$

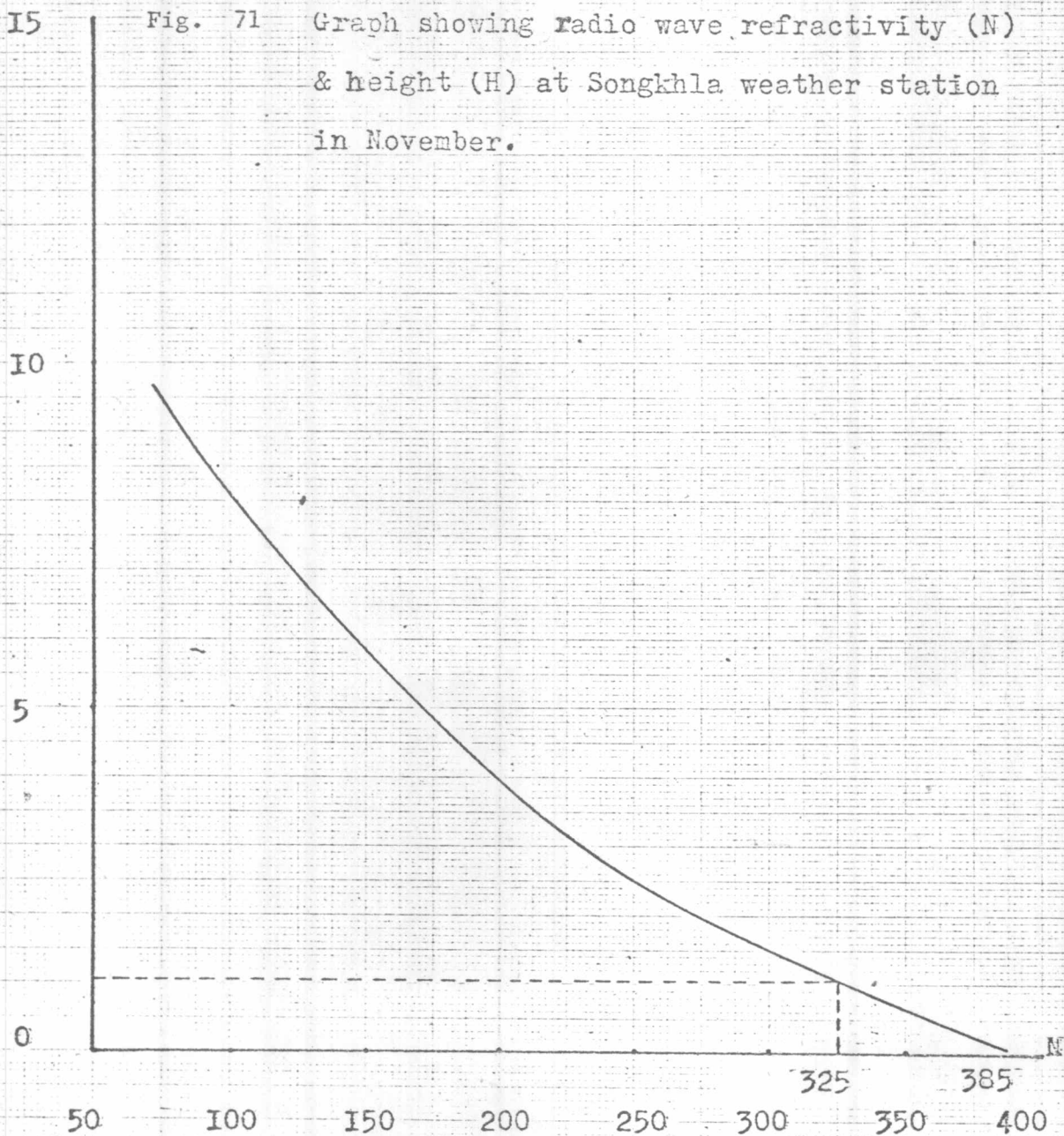
$$K = \frac{1}{1 + 6370 \cdot (-63) \cdot 10^{-6}} = 1.67$$

$$\exp(-b) = 1 + \frac{63}{383} = 1.1645$$

$$b = -0.1523$$

H (Km)

Fig. 71 Graph showing radio wave refractivity (N) & height (H) at Songkhla weather station in November.



$$\Delta N = 60, \quad \Delta H = -1 \text{ Km.}$$

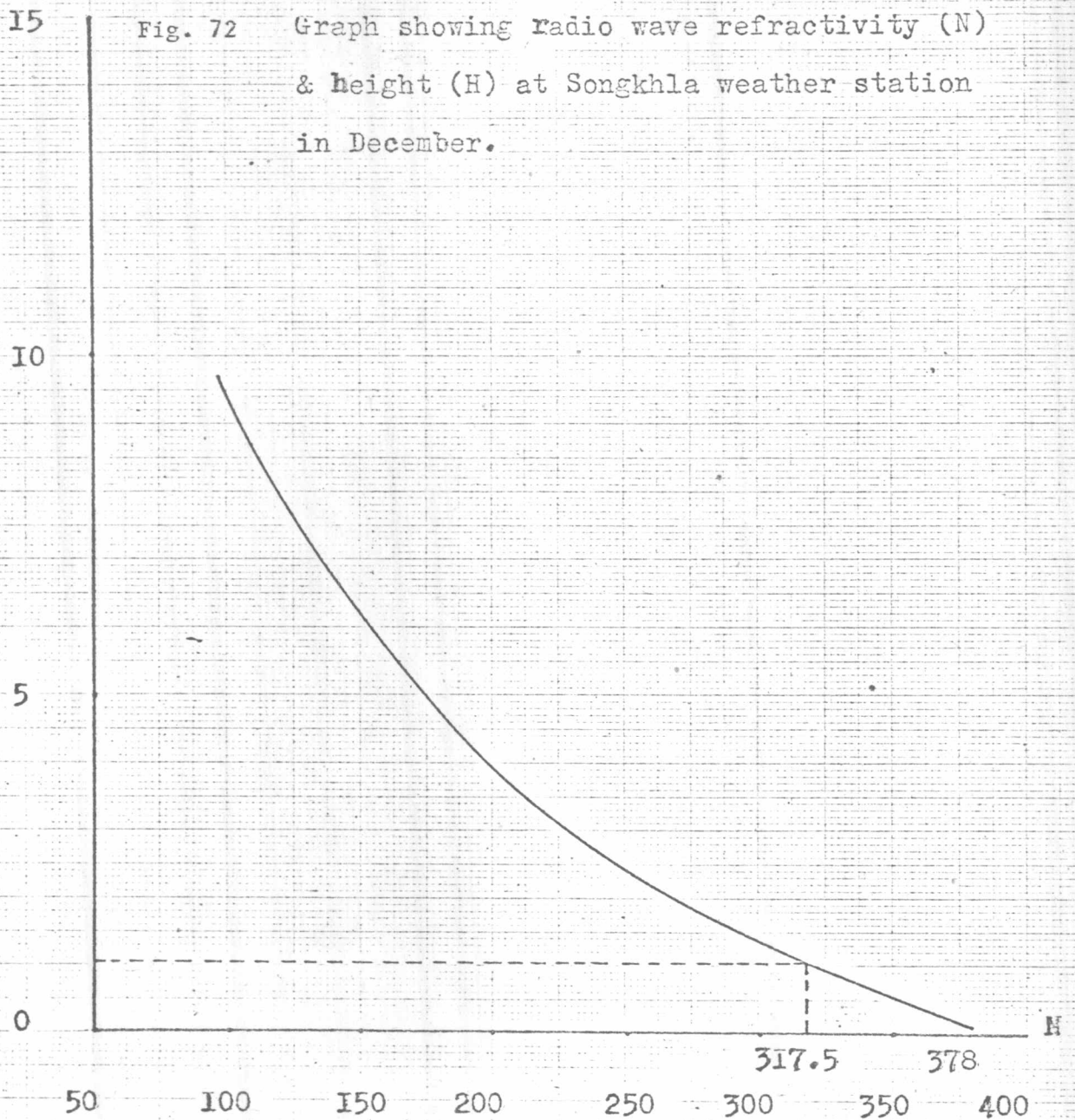
$$K = \frac{1}{1 + 6370 (-60) * 10^{-6}} = 1.62$$

$$\exp(-b) = 1 + \frac{60}{385} = 1.1558$$

$$b = -0.1448$$



H (Km)



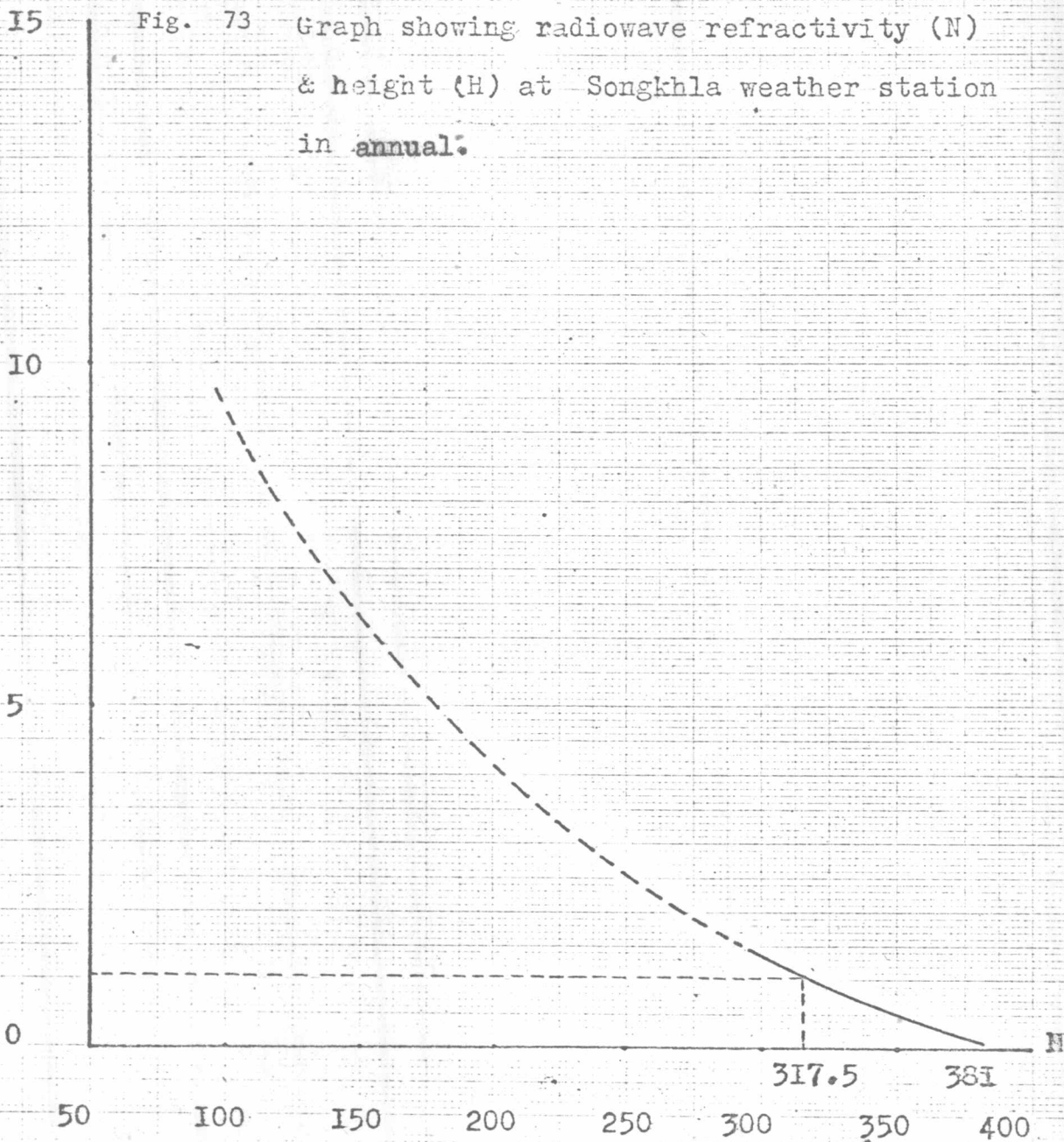
$$\Delta N = 60.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-60.5) * 10^{-6}} = 1.63$$

$$\exp(-b) = 1 + \frac{60.5}{378} = 1.1601$$

$$b = -0.1485$$

Fig. 73 Graph showing radiowave refractivity (N) & height (H) at Songkhla weather station in annual.

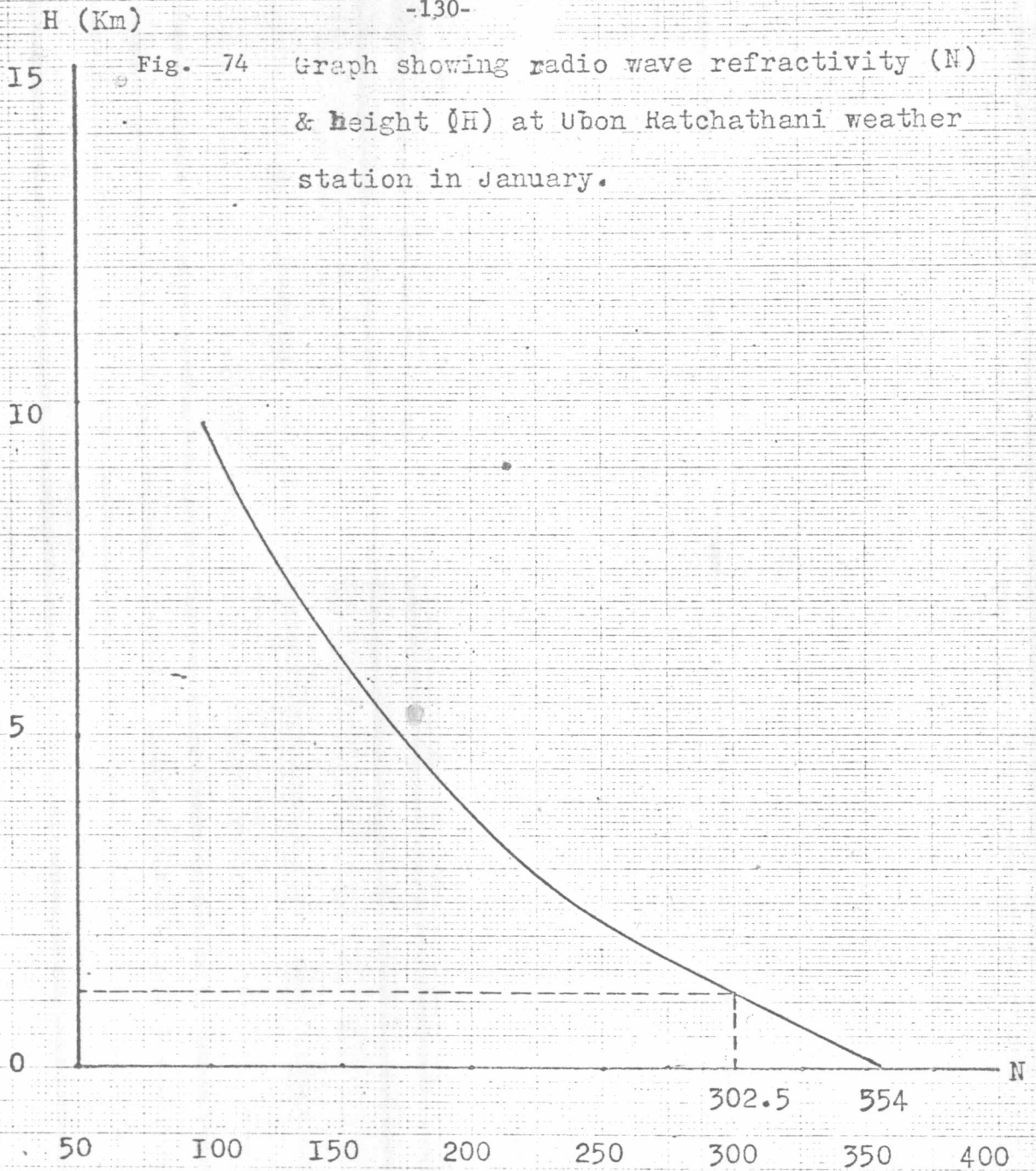


$$\Delta N = 63.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-63.5) * 10^{-6}} = 1.68$$

$$\exp(-b) = 1 + \frac{63.5}{381} = 1.1667$$

$$b = -0.1542$$



$$\Delta N = 51.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-51.5) \cdot 10^{-6}} = 1.49$$

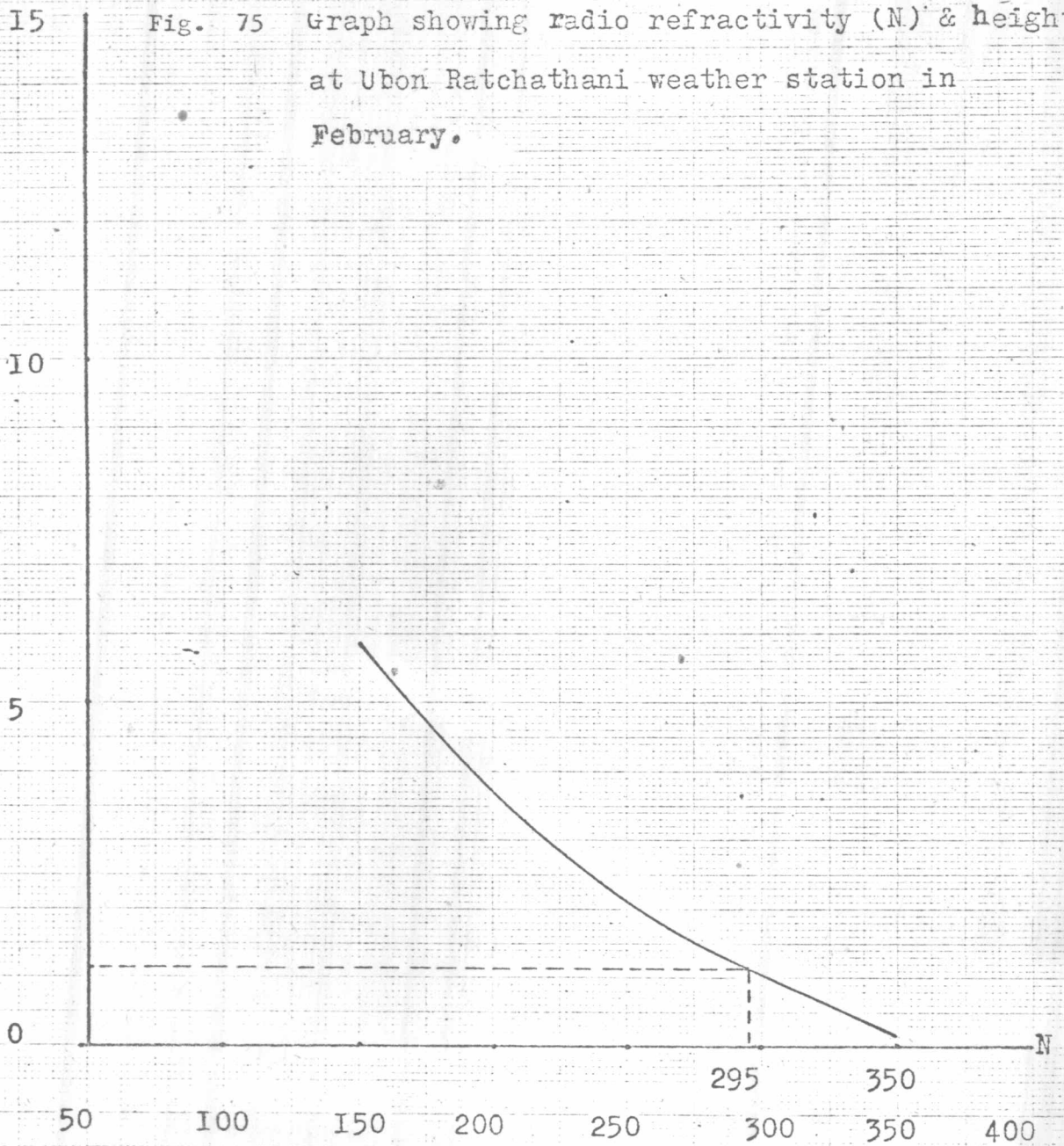
$$\exp(-b) = 1 + \frac{51.5}{354} = 1.1455$$

$$b = -0.1358$$

H (Km)

-131-

Fig. 75 Graph showing radio refractivity (N) & height at Ubon Ratchathani weather station in February.



$$\Delta N = 55, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370(-55) * 10^{-6}} = 1.54$$

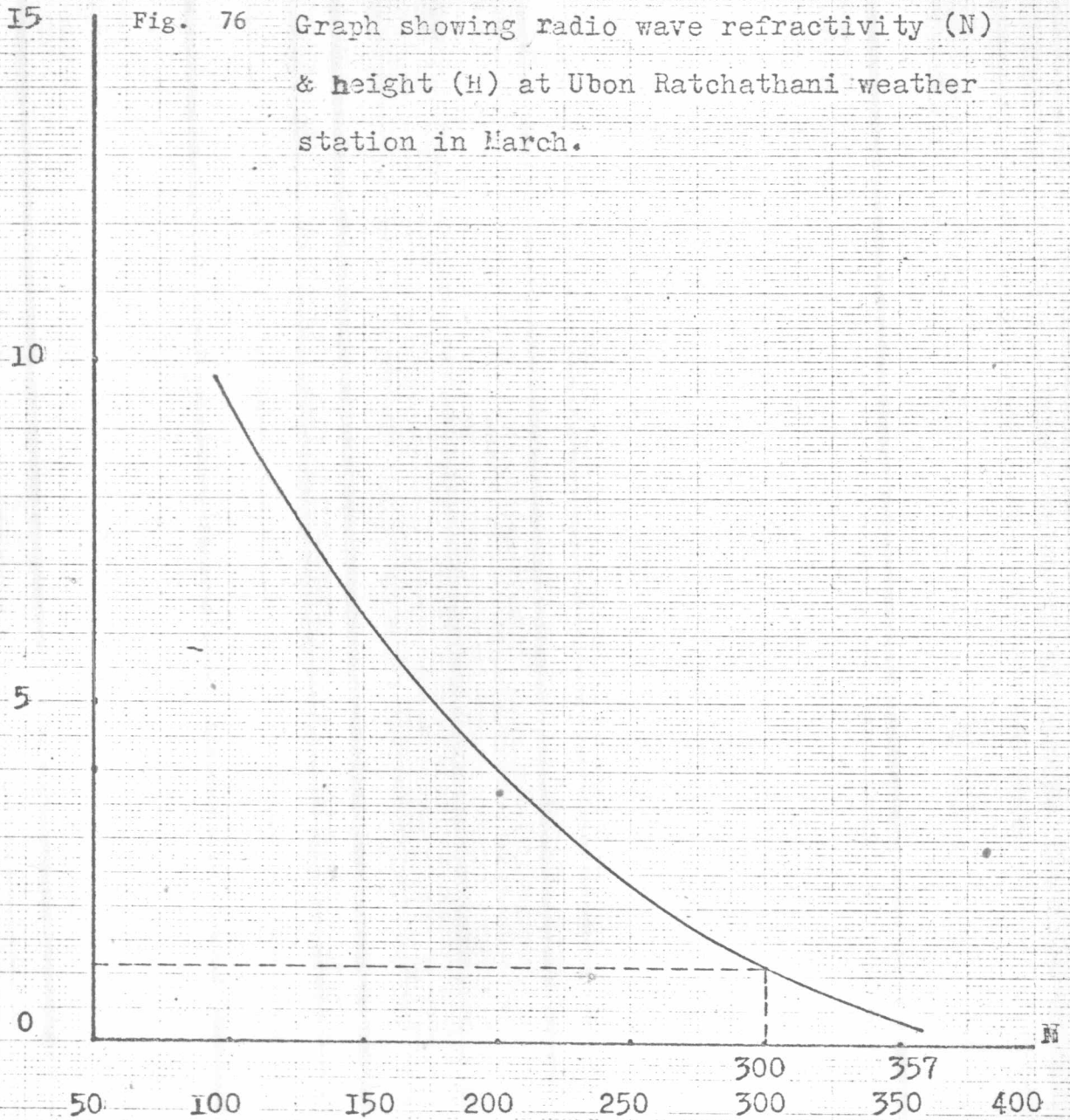
$$\exp(-b) = 1 + \frac{55}{350} = 1.1571$$

$$b = -0.1460$$

H (Km)

-132-

Fig. 76 Graph showing radio wave refractivity (N) & height (H) at Ubon Ratchathani weather station in March.

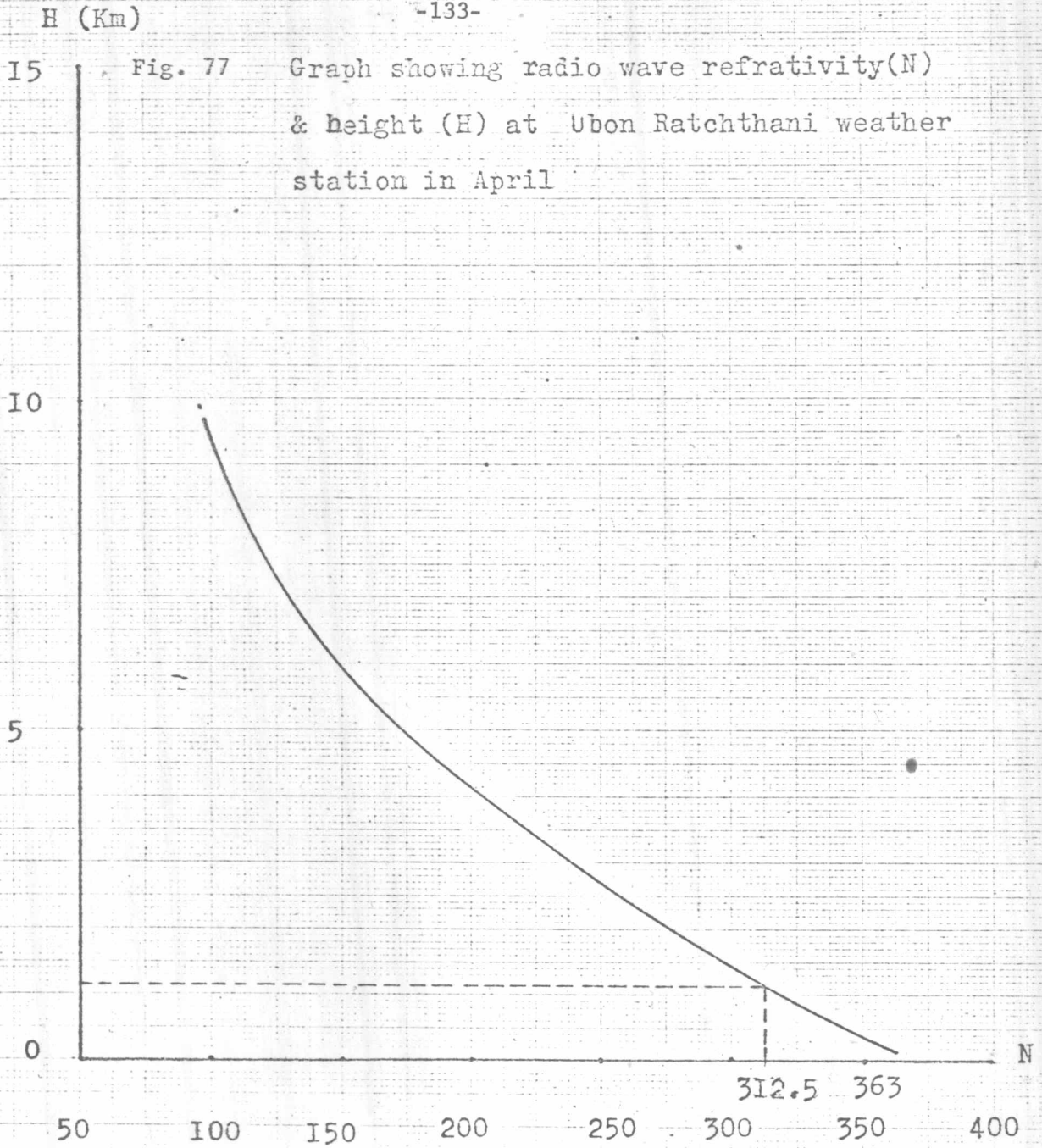


$$\Delta N = 57, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-57) * 10^{-6}} = 1.57$$

$$\exp(-b) = 1 + \frac{57}{357} = 1.1597$$

$$b = -0.1481$$



$$\Delta N = 50.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 \cdot (-50.5) \cdot 10^{-6}} = 1.47$$

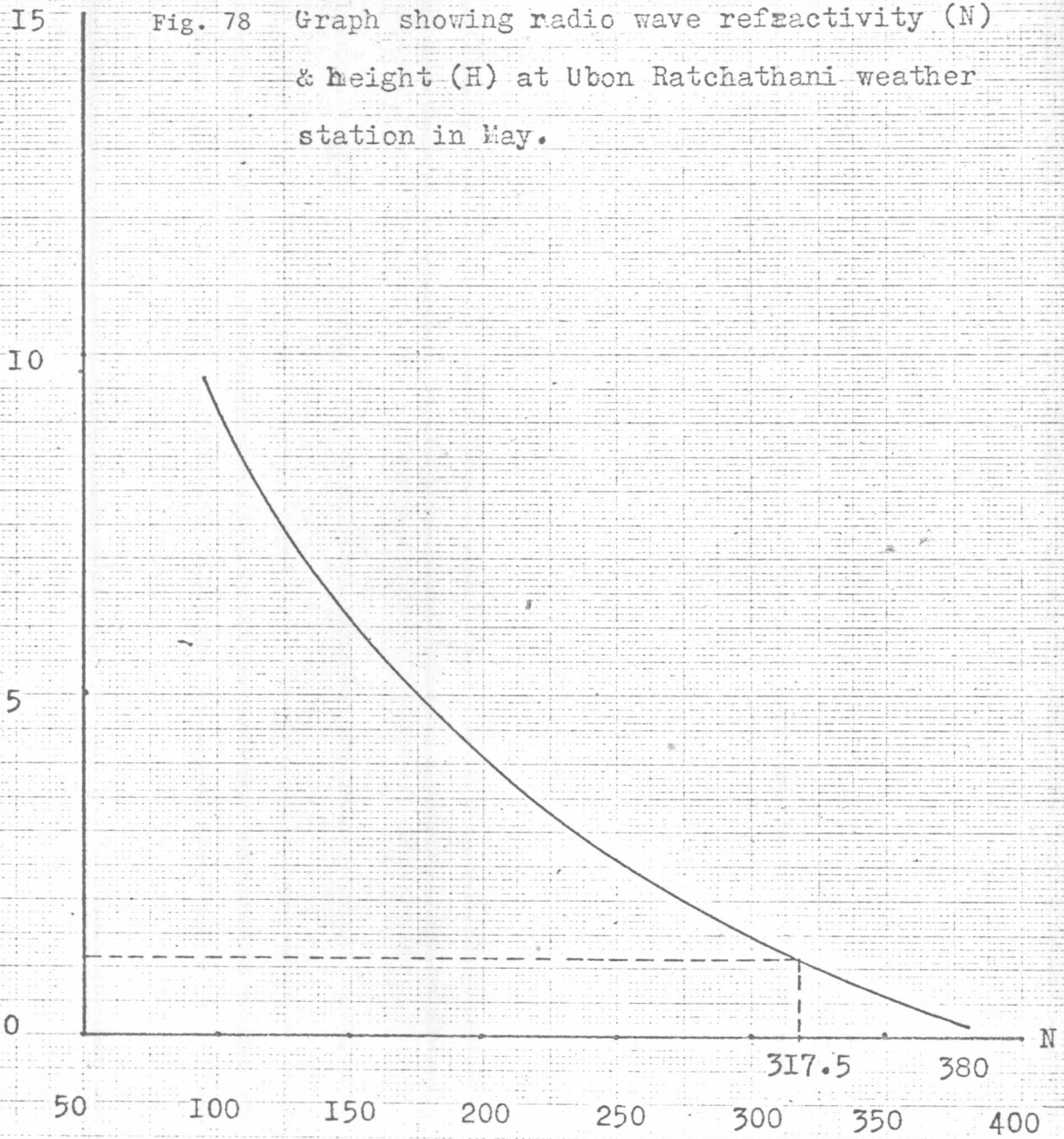
$$\exp(-b) = 1 + \frac{50.5}{363} = 1.1391$$

$$b = -0.1302$$

H (Km)

15

Fig. 78 Graph showing radio wave refractivity (N) & height (H) at Ubon Ratchathani weather station in May.



50      100      150      200      250      300      350      400

317.5      380

$\Delta N = 62.5$  ,  $\Delta H = -1$  Km.

$K = \frac{1}{1 + 6370(-62.5) * 10^{-6}} = 1.66$

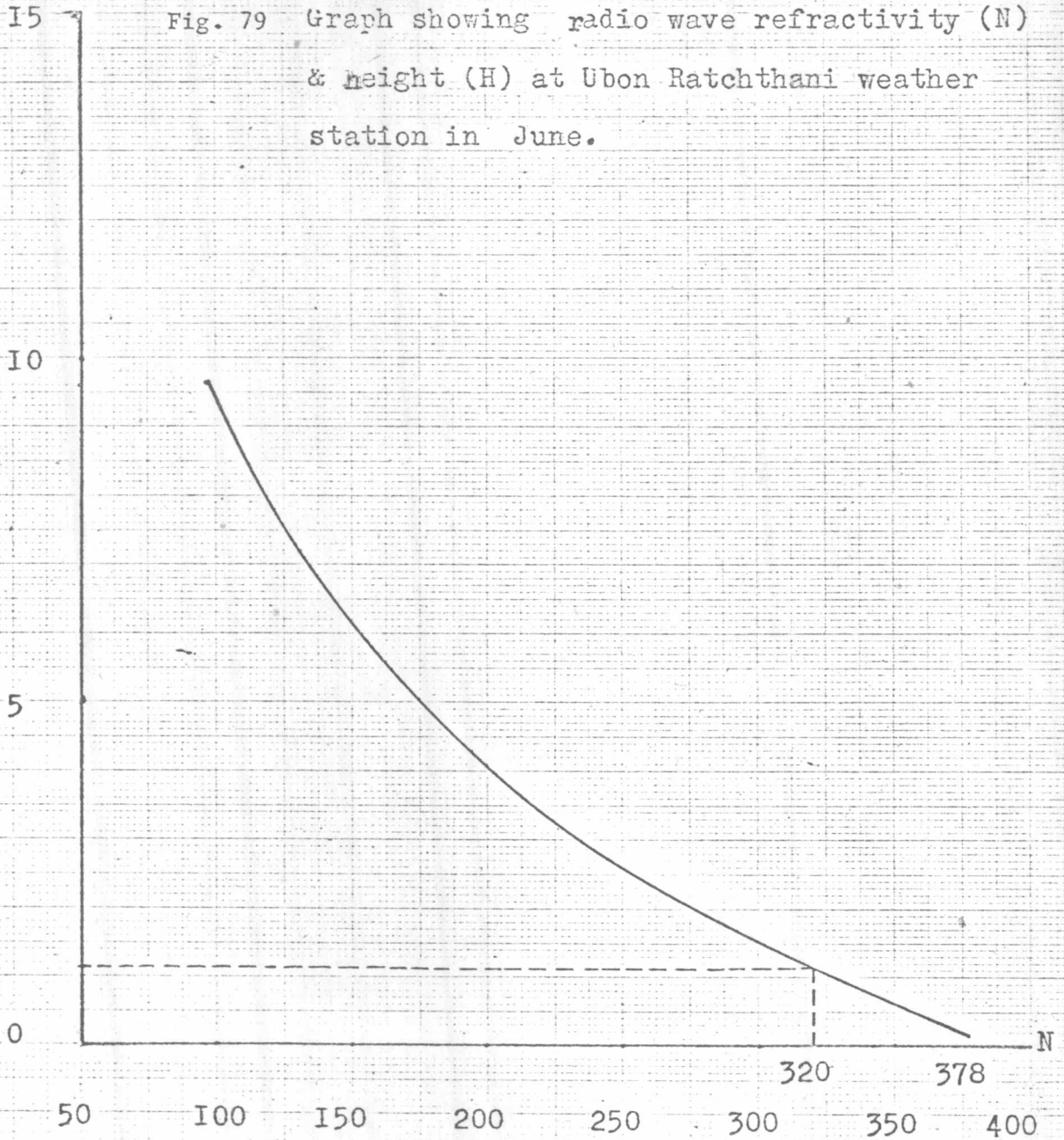
$\exp(-b) = 1 + \frac{62.5}{380} = 1.1645$

$b = -0.1523$

H(Km)

-135-

Fig. 79 Graph showing radio wave refractivity (N) & height (H) at Ubon Ratchthani weather station in June.



$$\Delta N = 58, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 \cdot (-58) \cdot 10^{-6}} = 1.59$$

$$\exp(-b) = 1 + \frac{58}{378} = 1.1534$$

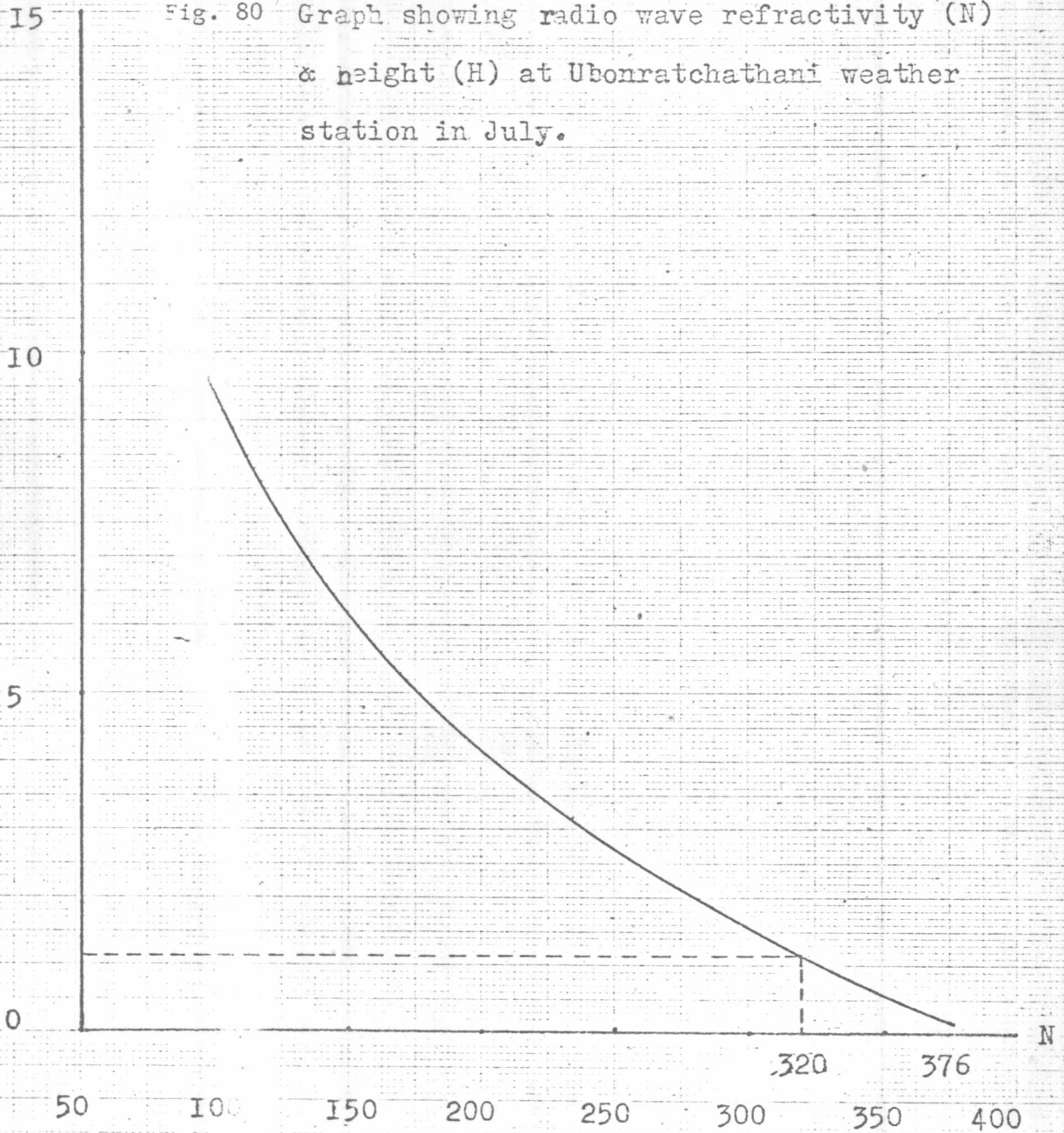
$$b = -0.1428$$



H (Km)

-136-

Fig. 80 Graph showing radio wave refractivity (N) & height (H) at Ubonratchathani weather station in July.



$$\Delta N = 56, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-56) * 10^{-6}} = 1.56$$

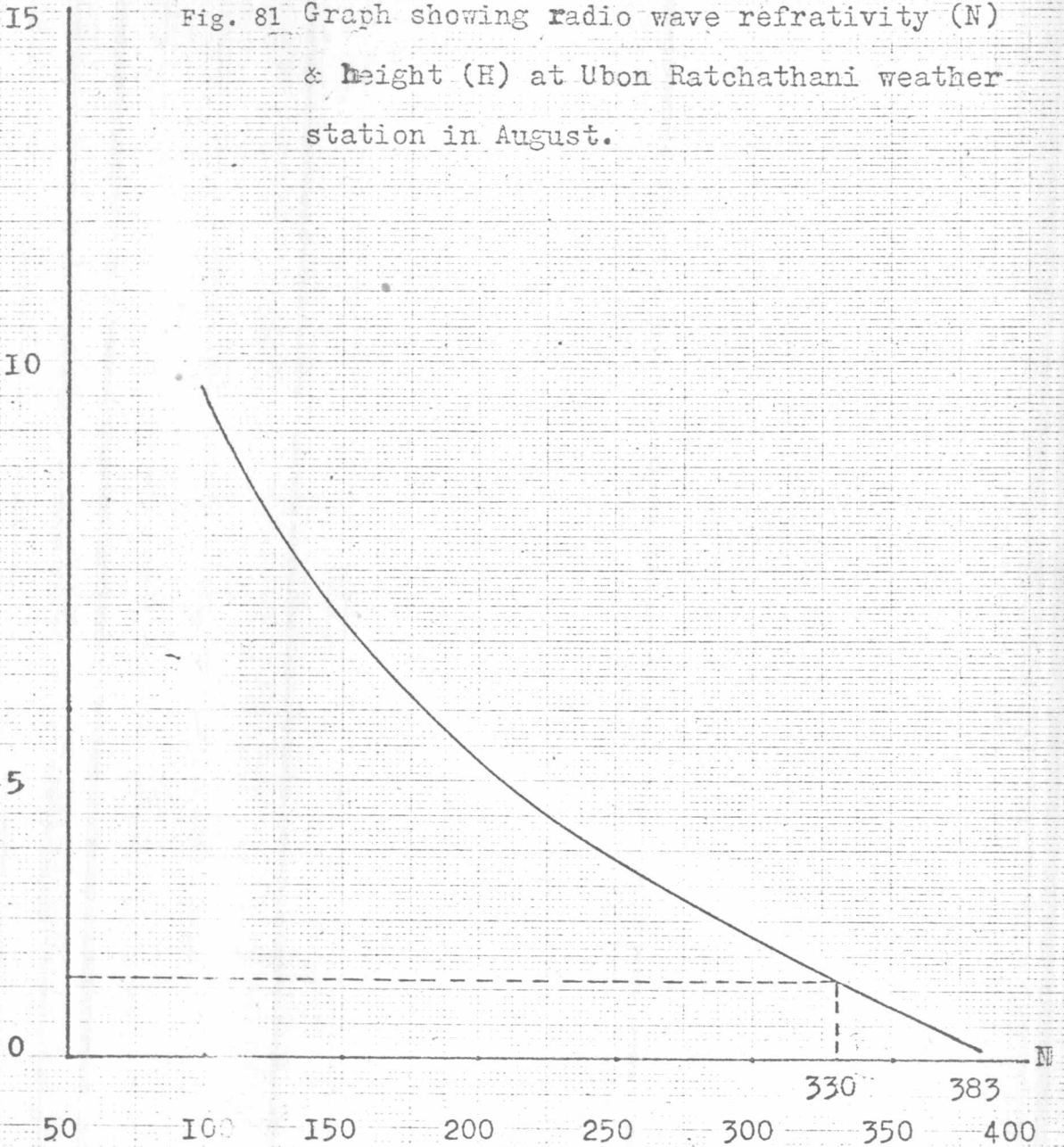
$$\exp(-b) = 1 + \frac{56}{376} = 1.1489$$

$$b = -0.1388$$

H (Km)

-137-

Fig. 81 Graph showing radio wave refractivity (N) & height (H) at Ubon Ratchathani weather station in August.



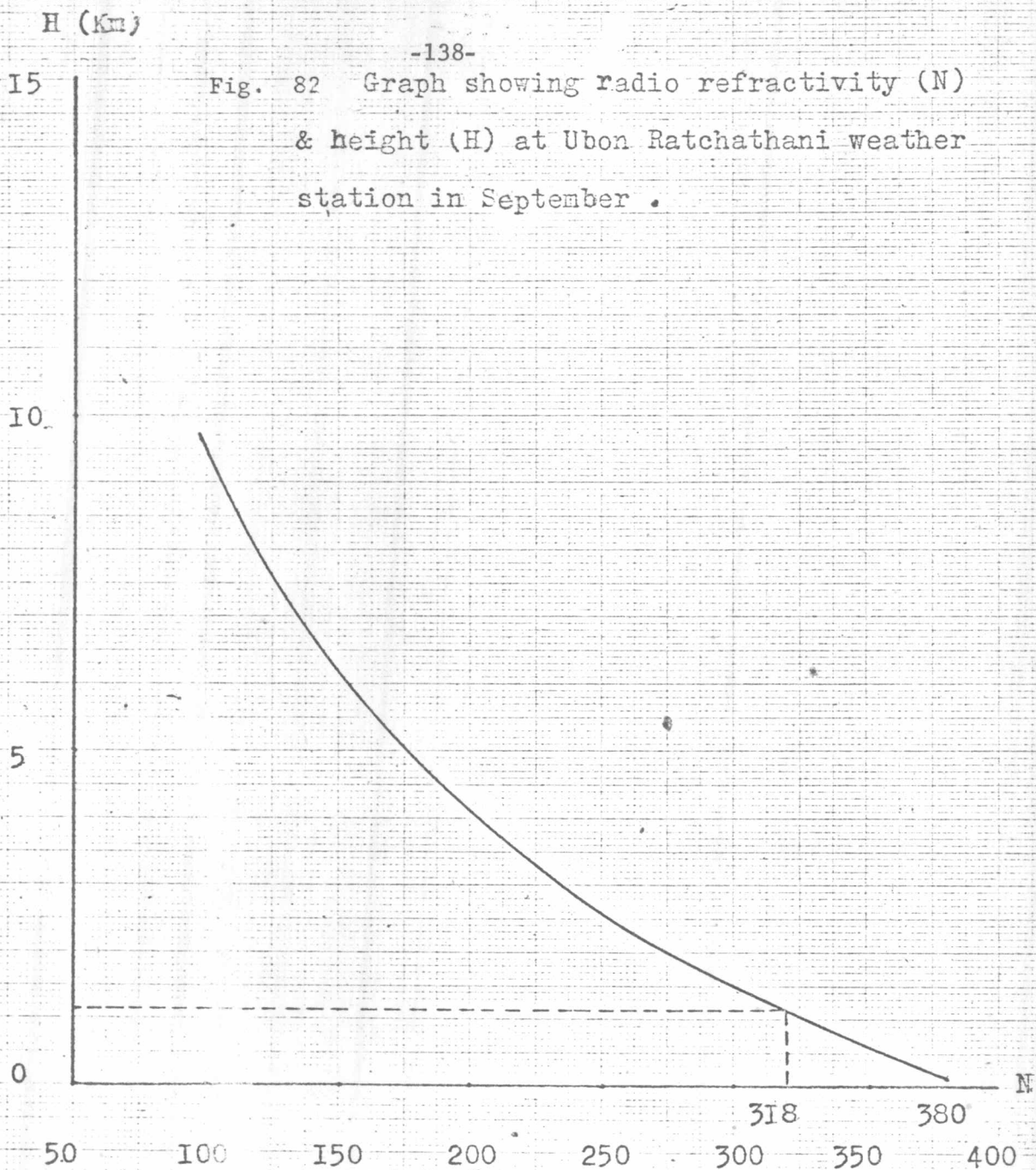
$$\Delta N = 53, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-53) * 10^{-6}} = 1.51$$

$$\exp(-b) = 1 + \frac{53}{383} = 1.1384$$

$$b = -0.1296$$

Fig. 82 Graph showing radio refractivity (N) & height (H) at Ubon Ratchathani weather station in September .



$$\Delta N = 62, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-62) * 10^{-6}} = 1.67$$

$$\exp(-b) = 1 + \frac{62}{380} = 1.1632$$

$$b = -0.1511$$

H (Km)

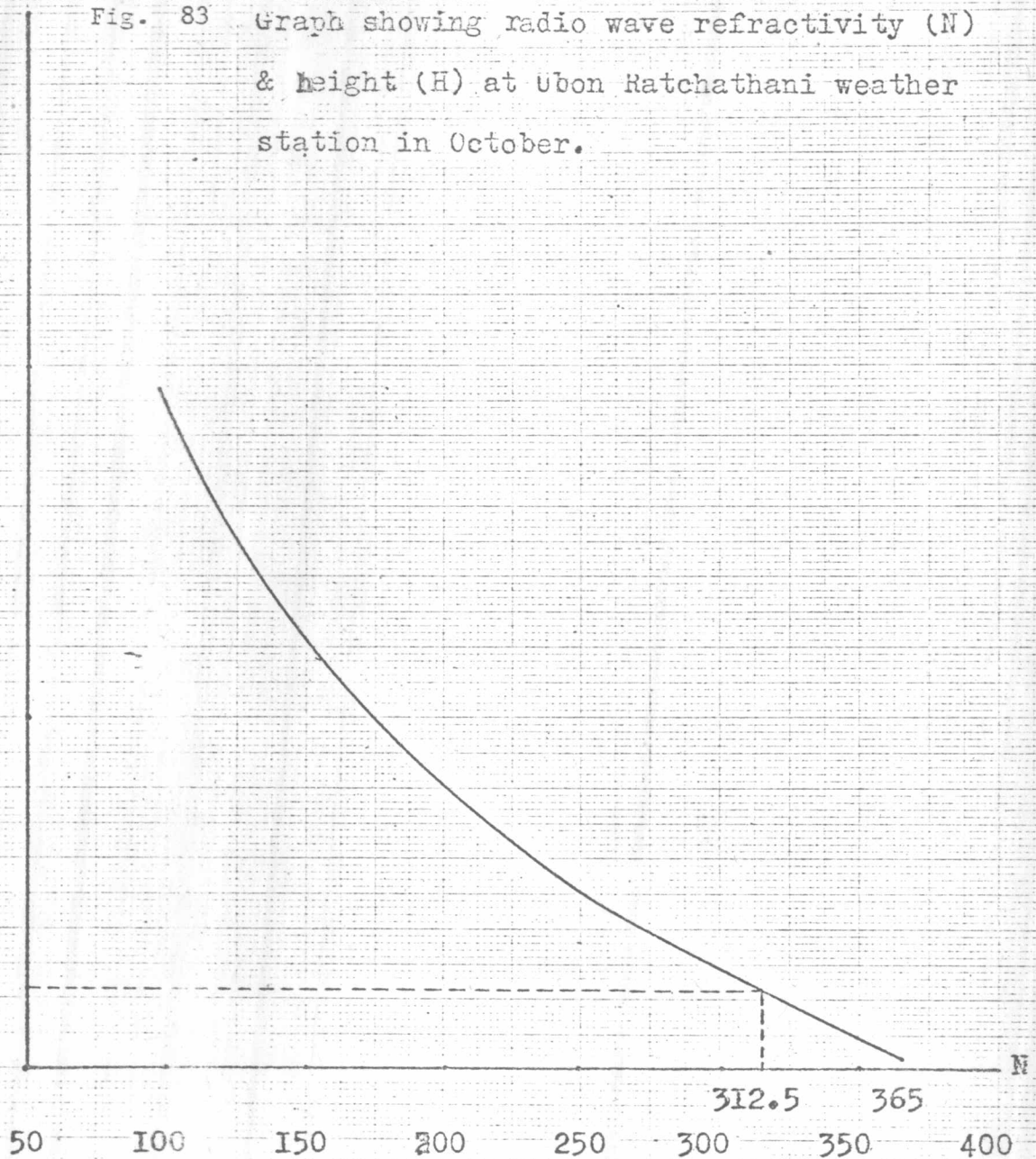
15

Fig. 83 Graph showing radio wave refractivity (N) & height (H) at Ubon Ratchathani weather station in October.

10

5

0



$$\Delta N = 52.5 \quad , \quad \Delta H = 1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-52.5) * 10^{-6}} = 1.50$$

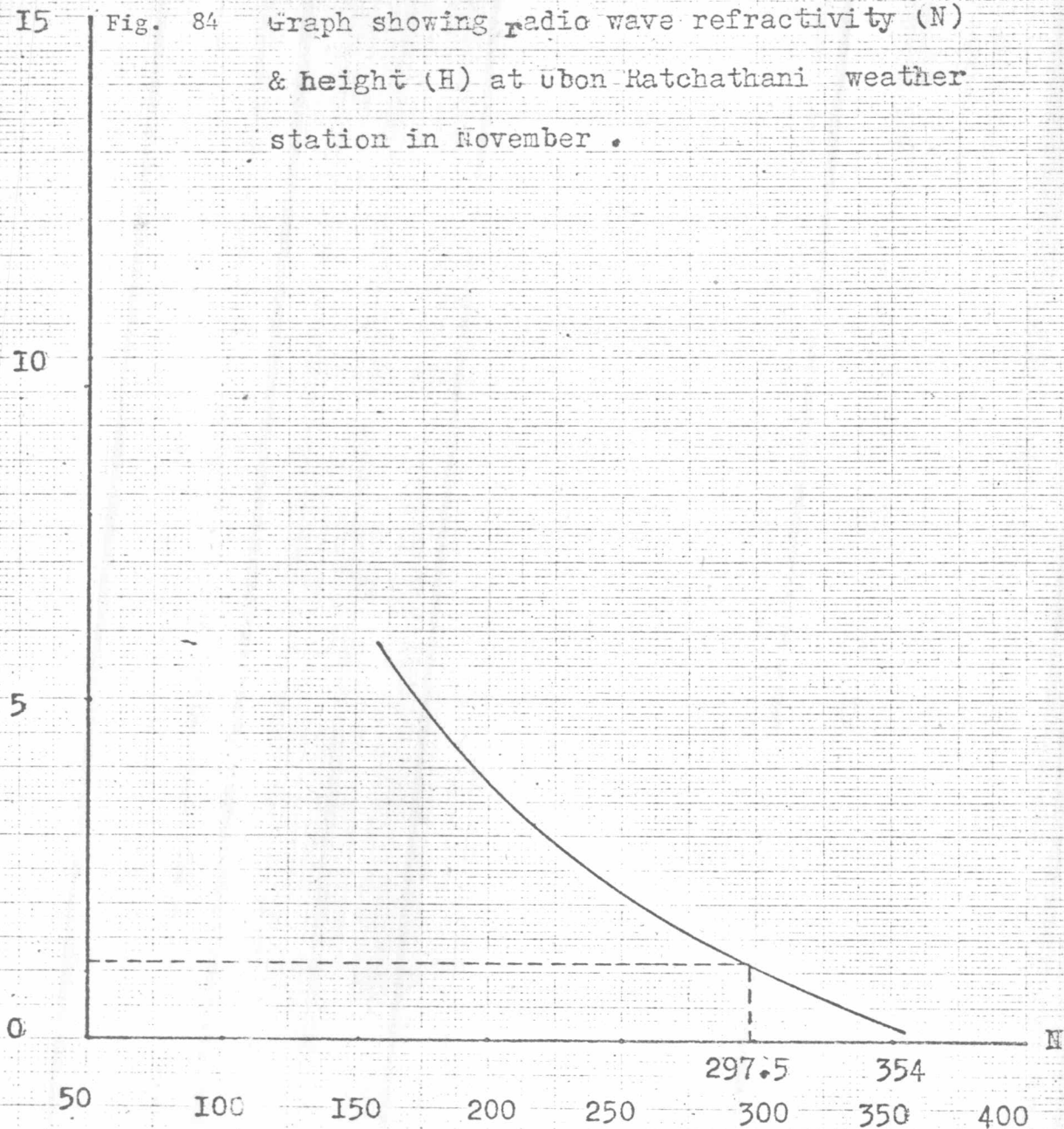
$$\exp(-b) = 1 + \frac{52.5}{380} = 1.1382$$

$$b = -0.1294$$

H (Km)

-140-

Fig. 84 Graph showing radio wave refractivity (N) & height (H) at Ubon Ratchathani weather station in November.



$$\Delta N = 56.5, \quad \Delta H = -1 \text{ Km.}$$

$$K = \frac{1}{1 + 6370 (-56.5) \times 10^{-6}} = 1.56$$

$$\exp(-b) = 1 + \frac{56.5}{354} = 1.1596$$

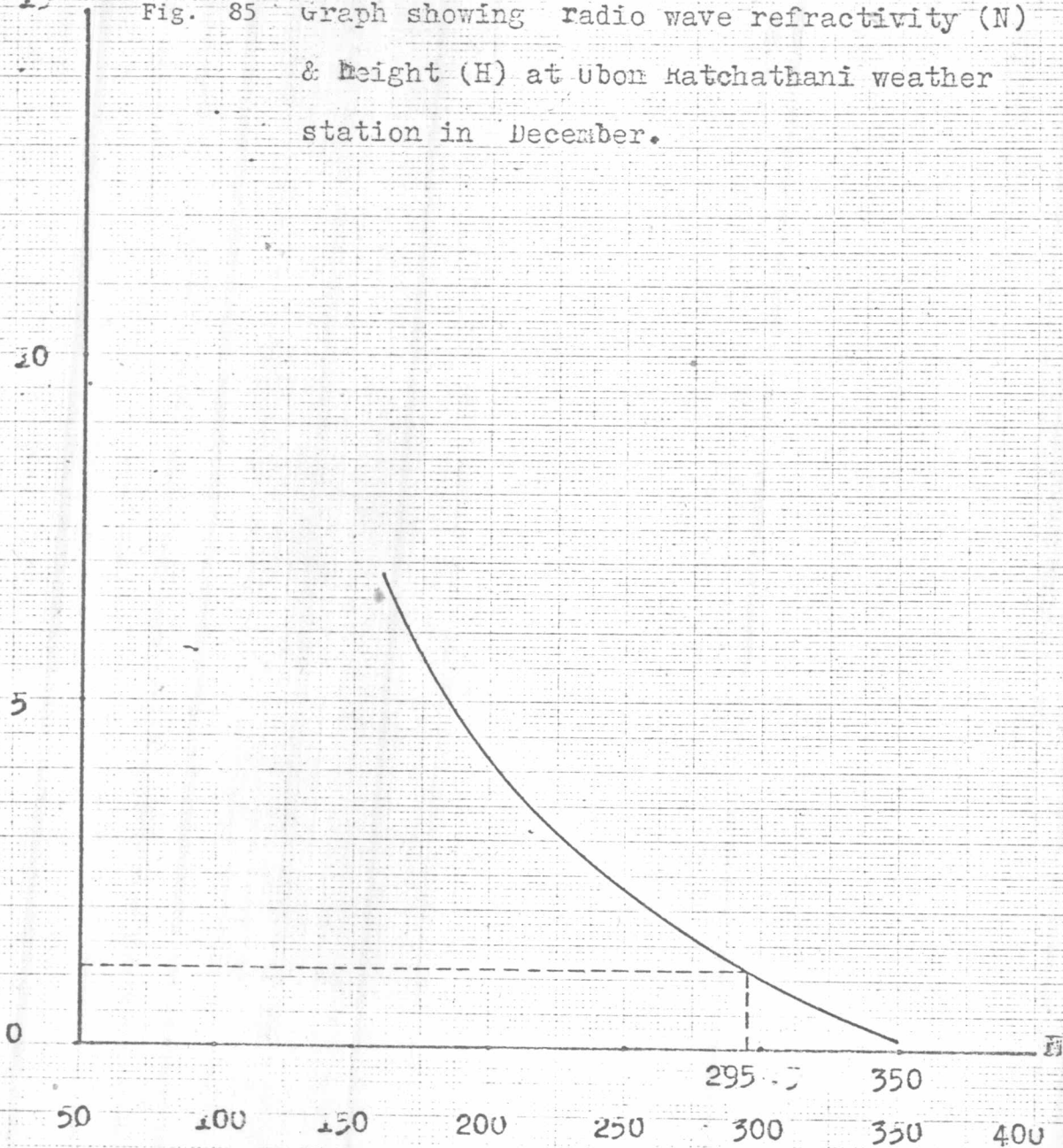
$$b = -0.1481$$

H (Km)

-141-

25

Fig. 85 Graph showing radio wave refractivity (N) & Height (H) at Ubon Ratchathani weather station in December.



$$\Delta N = 55, \quad \Delta H = -1 \text{ Km.}$$

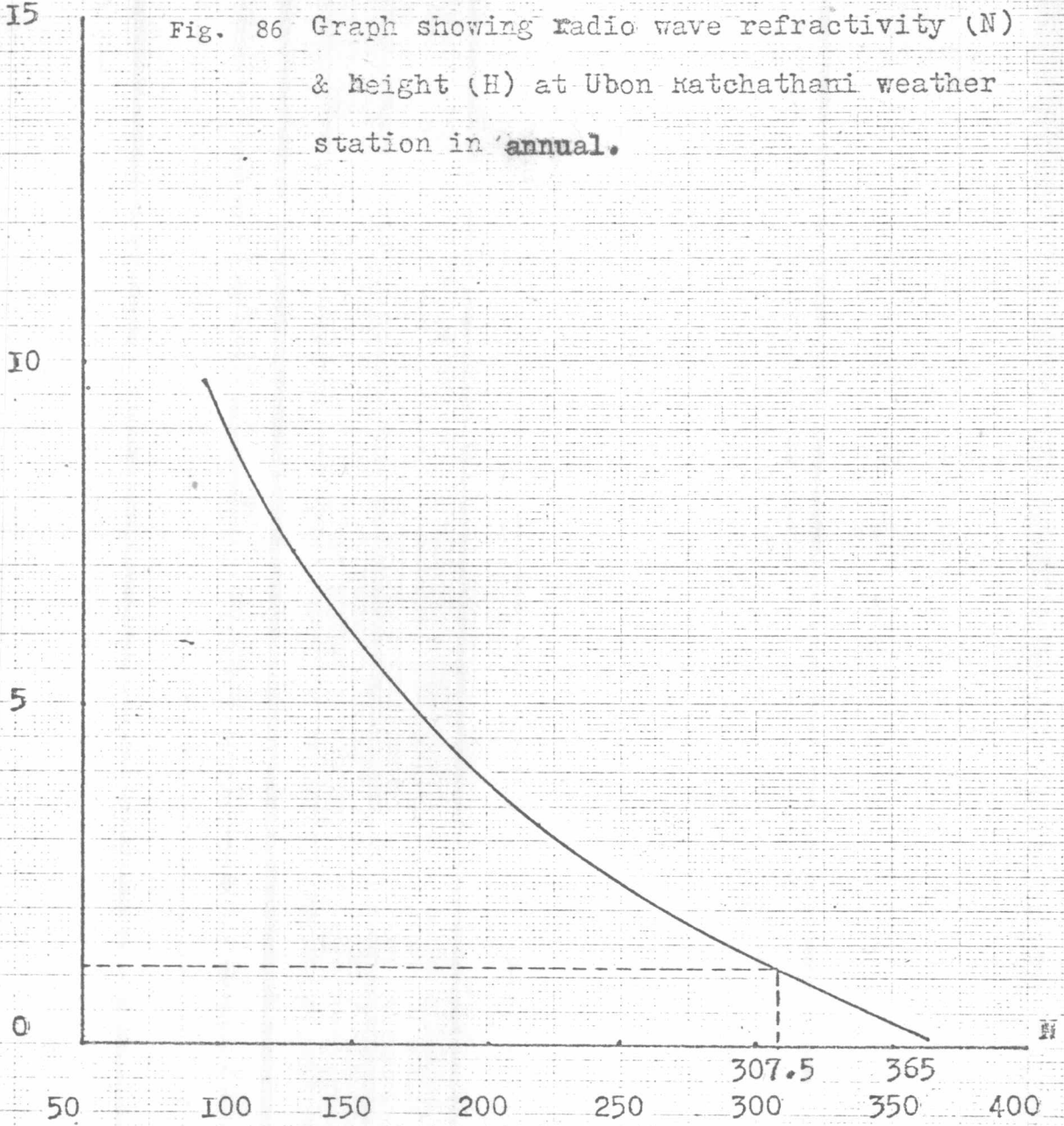
$$K = \frac{1}{1 + 6370 (-55) * 10^{-6}} = 1.54$$

$$\exp(-b) = 1 + \frac{55}{350} = 1.1571$$

$$b = -0.1460$$

H (Km)

Fig. 86 Graph showing radio wave refractivity (N) & Height (H) at Ubon Ratchathani weather station in annual.



$$\Delta N = 57.5 \quad , \quad \Delta H = -1 \quad \text{Km.}$$

$$K = \frac{1}{1 + 6370 (-57.5) * 10^{-6}} = 1.58$$

$$\exp(-b) = 1 + \frac{57.5}{365} = 1.1575$$

$$b = -0.1463$$