LATTICE SPACINGS FOR GLANCING ANGLES WITH IRON *X*-RADIATION

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$\theta°$	5	6	7	8	9	10	11	12	13	14
0.00	11.084	9.2419	7.9268	6.9411	6.1753	5.5631	5.0628	4.6463	4.2944	3.9931
0.05	10.974	9.1656	7.8708	6.8984	6.1414	5.5358	5.0402	4.6273	4.2782	3.9792
0.10	10.867	9.0908	7.8157	6.8561	6.1080	5.5086	5.0178	4.6085·	4.2622	3.9654
0.15	10.762	9.0172	7.7612	6.8143	6.0749	5.4818	4.9955·	4.5899	4.2463	3.9517
0.20	10.659	8.9448	7.7076	6.7730	6.0421	5.4552	4.9735	4.5713	4.2305	3.9380
0.25	10.557	8.8734	7.6547	6.7322	6.0098	5.4289	4.9517	4.5529	4.2147	3.9245
0.30	10.458	8.8034	7.6027	6.6919	5.9778	5.4028	4.9300	4.5347	4.1992	3.9110
0.35	10.361	8.7343	7.5513	6.6521	5.9461	5.3770	4.9086	4.5166	4.1838	3.8977
0.40	10.265·	8.6664	7.5005	6.6129	5.9147	5.3514	4.8874	4.4987	4.1684	3.8845
0.45	10.171	8.5994	7.4504	6.5740	5.8837	5.3261	4.8663	4.4809	4.1533	3.8713
0.50	10.079	8.5336	7.4010	6.5357	5.8530	5.3010	4.8454	4.4632	4.1381	3.8582
0.55	9.9885	8.4688	7.3522	6.4977	5.8226	5.2762	4.8248	4.4458	4.1232	3.8453
0.60	9.8997	8.4048	7.3042	6.4603	5.7927	5.2516	4.8043	4.4284	4.1083	3.8324
0.65	9.8123	8.3420	7.2567	6.4232	5.7629	5.2272	4.7839	4.4112	4.0935·	3.8196
0.70	9.7264	8.2800	7.2099	6.3865	5.7335·	5.2031	4.7638	4.3941	4.0789	3.8069
0.75	9.6421	8.2188	7.1637	6.3502	5.7044	5.1792	4.7437	4.3771	4.0643	3.7943
0.80	9.5594	8.1587	7.1180	6.3145·	5.6756	5.1554	4.7240	4.3603	4.0499	3.7817
0.85	9.4779	8.0995·	7.0729	6.2791	5.6470	5.1319	4.7042	4.3437	4.0355·	3.7693
0.90	9.3979	8.0410	7.0285	6.2441	5.6188	5.1087	4.6848	4.3271	4.0213	3.7569
0.95	9.3192	7.9834	6.9846	6.2095·	5.5907	5.0857	4.6655·	4.3107	4.0072	3.7446

$\theta°$	15	16	17	18	19	20	21	22	23	24
0.00	3.7324	3.5047	3.3041	3.1262	2.9672	2.8245	2.6956	2.5788	2.4724	2.3751
0.05	3.7203	3.4941	3.2947	3.1177	2.9597	2.8177	2.6895	2.5732	2.4673	2.3704
0.10	3.7083	3.4835·	3.2853	3.1094	2.9522	2.8110	2.6834	2.5677	2.4622	2.3658
0.15	3.6963	3.4730	3.2760	3.1011	2.9448	2.8043	2.6774	2.5622	2.4572	2.3612
0.20	3.6845·	3.4626	3.2669	3.0929	2.9374	2.7977	2.6713	2.5567	2.4522	2.3566
0.25	3.6727	3.4522	3.2576	3.0848	2.9301	2.7911	2.6654	2.5512	2.4472	2.3521
0.30	3.6609	3.4419	3.2486	3.0766	2.9228	2.7845	2.6594	2.5458	2.4422	2.3475·
0.35	3.6493	3.4317	3.2394	3.0685·	2.9155·	2.7779	2.6534	2.5404	2.4373	2.3430
0.40	3.6377	3.4215·	3.2304	3.0605	2.9083	2.7714	2.6475·	2.5350	2.4324	2.3385
0.45	3.6263	3.4114	3.2214	3.0525	2.9011	2.7649	2.6417	2.5297	2.4275·	2.3340
0.50	3.6148	3.4013	3.2126	3.0445	2.8939	2.7584	2.6358	2.5244	2.4226	2.3295
0.55	3.6035·	3.3913	3.2037	3.0365·	2.8869	2.7520	2.6300	2.5191	2.4178	2.3250
0.60	3.5923	3.3814	3.1948	3.0287	2.8798	2.7456	2.6242	2.5137	2.4130	2.3206
0.65	3.5810	3.3716	3.1861	3.0209	2.8728	2.7393	2.6184	2.5085·	2.4081	2.3162
0.70	3.5699	3.3617	3.1774	3.0131	2.8658	2.7329	2.6127	2.5033	2.4034	2.3118
0.75	3.5589	3.3520	3.1687	3.0053	2.8588	2.7267	2.6069	2.4980	2.3986	2.3074
0.80	3.5479	3.3423	3.1601	2.9976	2.8519	2.7204	2.6013	2.4929	2.3939	2.3031
0.85	3.5370	3.3327	3.1515·	2.9899	2.8449	2.7141	2.5956	2.4877	2.3891	2.2987
0.90	3.5261	3.3231	3.1430	2.9824	2.8381	2.7079	2.5900	2.4826	2.3844	2.2944
0.95	3.5154	3.3136	3.1346	2.9747	2.8313	2.7018	2.5843	2.4775	2.3797	2.2901

$\theta°$	25	26	27	28	29	30	31	32	33	34
0.00	2.2858	2.2037	2.1278	2.0577	1.9926	1.9321	1.8756	1.8230	1.7737	1.7275·
0.05	2.2816	2.1997	2.1242	2.0543	1.9895	1.9291	1.8729	1.8204	1.7713	1.7253
0.10	2.2773	2.1958	2.1206	2.0510	1.9863	1.9262	1.8702	1.8179	1.7690	1.7231
0.15	2.2731	2.1919	2.1170	2.0476	1.9832	1.9234	1.8675	1.8154	1.7666	1.7209
0.20	2.2689	2.1880	2.1134	2.0443	1.9802	1.9204	1.8648	1.8128	1.7642	1.7187
0.25	2.2646	2.1841	2.1098	2.0410	1.9771	1.9176	1.8621	1.8103	1.7619	1.7164
0.30	2.2605	2.1803	2.1063	2.0377	1.9740	1.9147	1.8595	1.8078	1.7595·	1.7143
0.35	2.2563	2.1765	2.1027	2.0344	1.9709	1.9119	1.8568	1.8053	1.7572	1.7121
0.40	2.2522	2.1727	2.0991	2.0311	1.9678	1.9090	1.8541	1.8029	1.7549	1.7099
0.45	2.2480	2.1688	2.0956	2.0278	1.9648	1.9062	1.8515	1.8004	1.7525·	1.7077
0.50	2.2439	2.1650	2.0921	2.0246	1.9618	1.9034	1.8488	1.7979	1.7502	1.7055·
0.55	2.2398	2.1612	2.0886	2.0213	1.9588	1.9006	1.8462	1.7955	1.7480	1.7034
0.60	2.2357	2.1575	2.0851	2.0180	1.9557	1.8978	1.8436	1.7930	1.7457	1.7012
0.65	2.2317	2.1537	2.0817	2.0148	1.9528	1.8950	1.8410	1.7906	1.7434	1.6991
0.70	2.2276	2.1500	2.0782	2.0116	1.9498	1.8922	1.8384	1.7881	1.7411	1.6969
0.75	2.2236	2.1462	2.0747	2.0084	1.9468	1.8894	1.8358	1.7857	1.7388	1.6948
0.80	2.2196	2.1425·	2.0713	2.0053	1.9438	1.8866	1.8332	1.7833	1.7365·	1.6927
0.85	2.2156	2.1388	2.0679	2.0021	1.9409	1.8839	1.8307	1.7809	1.7343	1.6906
0.90	2.2116	2.1352	2.0645	1.9989	1.9379	1.8811	1.8281	1.7785	1.7320	1.6884
0.95	2.2076	2.1315·	2.0611	1.9957	1.9350	1.8784	1.8255·	1.7761	1.7298	1.6863

$\theta°$	35	36	37	38	39	40	41	42	43	44
0.00	1.6842	1.6435·	1.6052	1.5691	1.5350	1.5029	1.4725	1.4437	1.4165	1.3907
0.05	1.6821	1.6415·	1.6033	1.5673	1.5334	1.5013	1.4710	1.4423	1.4151	1.3894
0.10	1.6800	1.6396	1.6015	1.5656	1.5317	1.4998	1.4695·	1.4409	1.4138	1.3882
0.15	1.6780	1.6376	1.5996	1.5639	1.5301	1.4982	1.4680	1.4395·	1.4125·	1.3869
0.20	1.6759	1.6356	1.5978	1.5621	1.5284	1.4966	1.4666	1.4381	1.4112	1.3856
0.25	1.6738	1.6337	1.5960	1.5604	1.5268	1.4951	1.4651	1.4367	1.4099	1.3844
0.30	1.6717	1.6318	1.5942	1.5587	1.5252	1.4936	1.4637	1.4354	1.4086	1.3832
0.35	1.6697	1.6298	1.5923	1.5569	1.5236	1.4920	1.4622	1.4340	1.4073	1.3819
0.40	1.6676	1.6279	1.5905	1.5552	1.5219	1.4905	1.4608	1.4326	1.4060	1.3807
0.45	1.6656	1.6260	1.5887	1.5535·	1.5203	1.4890	1.4593	1.4313	1.4047	1.3795
0.50	1.6636	1.6241	1.5869	1.5518	1.5187	1.4875	1.4579	1.4299	1.4034	1.3783
0.55	1.6615·	1.6221	1.5851	1.5501	1.5171	1.4859	1.4565	1.4285·	1.4021	1.3770
0.60	1.6595·	1.6202	1.5833	1.5484	1.5155·	1.4844	1.4550	1.4272	1.4008	1.3758
0.65	1.6575	1.6183	1.5815·	1.5467	1.5139	1.4829	1.4536	1.4258	1.3995·	1.3746
0.70	1.6555	1.6164	1.5797	1.5450	1.5123	1.4814	1.4522	1.4245	1.3983	1.3734
0.75	1.6535	1.6145·	1.5779	1.5434	1.5107	1.4799	1.4507	1.4231	1.3970	1.3722
0.80	1.6515	1.6127	1.5762	1.5417	1.5092	1.4784	1.4493	1.4218	1.3957	1.3710
0.85	1.6495	1.6108	1.5744	1.5400	1.5076	1.4769	1.4479	1.4205	1.3944	1.3698
0.90	1.6475	1.6089	1.5726	1.5384	1.5060	1.4754	1.4465·	1.4191	1.3932	1.3685·
0.95	1.6455	1.6071	1.5708	1.5367	1.5044	1.4739	1.4451	1.4178	1.3919	1.3674

The table of lattice spacings for glancing angles with copper x-radiation, by Forman (*Univ. Toronto Studies*, Geol. Ser., **51,** 87, 1947) has proved most convenient, especially as reprinted on a 4-page folder. The

$\theta°$	45	46	47	48	49	50	51	52	53	54
0.00	1.3662	1.3430	1.3209	1.2999	1.2800	1.2611	1.2431	1.2259	1.2096	1.1941
0.05	1.3650	1.3418	1.3198	1.2989	1.2790	1.2601	1.2422	1.2251	1.2088	1.1933
0.10	1.3638	1.3407	1.3187	1.2979	1.2781	1.2592	1.2413	1.2242	1.2080	1.1926
0.15	1.3626	1.3396	1.3177	1.2969	1.2771	1.2583	1.2404	1.2234	1.2072	1.1918
0.20	1.3614	1.3384	1.3166	1.2959	1.2761	1.2574	1.2395·	1.2226	1.2064	1.1911
0.25	1.3603	1.3373	1.3155·	1.2949	1.2752	1.2565	1.2387	1.2217	1.2056	1.1903
0.30	1.3591	1.3362	1.3145	1.2938	1.2742	1.2556	1.2378	1.2209	1.2049	1.1896
0.35	1.3579	1.3351	1.3134	1.2928	1.2733	1.2546	1.2369	1.2201	1.2041	1.1888
0.40	1.3567	1.3340	1.3124	1.2918	1.2723	1.2537	1.2361	1.2193	1.2033	1.1881
0.45	1.3556	1.3329	1.3113	1.2908	1.2714	1.2529	1.2352	1.2185	1.2025·	1.1873
0.50	1.3544	1.3318	1.3103	1.2898	1.2704	1.2519	1.2344	1.2176	1.2017	1.1866
0.55	1.3533	1.3307	1.3092	1.2888	1.2695	1.2510	1.2335·	1.2168	1.2010	1.1859
0.60	1.3521	1.3296	1.3082	1.2878	1.2685·	1.2501	1.2327	1.2160	1.2002	1.1851
0.65	1.3509	1.3285	1.3071	1.2869	1.2676	1.2493	1.2318	1.2152	1.1994	1.1844
0.70	1.3498	1.3274	1.3061	1.2859	1.2666	1.2484	1.2309	1.2144	1.1986	1.1837
0.75	1.3486	1.3263	1.3051	1.2849	1.2657	1.2475	1.2301	1.2136	1.1979	1.1829
0.80	1.3475·	1.3252	1.3040	1.2839	1.2648	1.2466	1.2293	1.2128	1.1971	1.1822
0.85	1.3464	1.3241	1.3030	1.2829	1.2638	1.2457	1.2284	1.2120	1.1964	1.1815
0.90	1.3452	1.3230	1.3020	1.2819	1.2629	1.2448	1.2276	1.2112	1.1956	1.1808
0.95	1.3441	1.3220	1.3009	1.2810	1.2620	1.2439	1.2267	1.2104	1.1948	1.1800

$\theta°$	55	56	57	58	59	60	61	62	63	64
0.00	1.1793	1.1653	1 1519	1.1391	1.1270	1.1155	1.1045·	1.0941	1.0842	1.0748
0.05	1.1786	1.1646	1.1512	1.1385	1.1264	1.1149	1.1040	1.0936	1.0837	1.0744
0.10	1.1779	1.1639	1.1506	1.1379	1.1258	1.1143	1.1034	1.0931	1.0832	1.0739
0.15	1.1771	1.1632	1.1499	1.1373	1.1252	1.1138	1.1029	1.0926	1.0828	1.0734
0.20	1.1764	1.1625·	1.1493	1.1367	1.1247	1.1132	1.1024	1.0921	1.0823	1.0730
0.25	1.1757	1.1618	1.1486	1.1360	1.1241	1.1127	1.1019	1.0916	1.0818	1.0725·
0.30	1.1750	1.1612	1.1480	1.1354	1.1235	1.1121	1.1013	1.0911	1.0813	1.0721
0.35	1.1743	1.1605	1.1473	1.1348	1.1229	1.1116	1.1008	1.0906	1.0809	1.0716
0.40	1.1736	1.1598	1.1467	1.1342	1.1223	1.1110	1.1003	1.0901	1.0804	1.0712
0.45	1.1729	1.1591	1.1460	1.1336	1.1217	1.1105	1.0998	1.0896	1.0799	1.0707
0.50	1.1722	1.1585	1.1454	1.1330	1.1212	1.1099	1.0992	1.0891	1.0794	1.0703
0.55	1.1715	1.1578	1.1448	1.1324	1.1206	1.1094	1.0987	1.0886	1.0790	1.0698
0.60	1.1708	1.1571	1.1441	1.1318	1.1200	1.1088	1.0982	1.0881	1.0785	1.0694
0.65	1.1701	1.1565	1.1435·	1.1312	1.1194	1.1083	1.0977	1.0876	1.0780	1.0690
0.70	1.1694	1.1558	1.1429	1.1306	1.1189	1.1077	1.0972	1.0871	1.0776	1.0685·
0.75	1.1687	1.1552	1.1422	1.1300	1.1183	1.1072	1.0967	1.0866	1.0771	1.0681
0.80	1.1680	1.1545	1.1416	1.1294	1.1177	1.1066	1.0961	1.0861	1.0766	1.0676
0.85	1.1673	1.1538	1.1410	1.1288	1.1172	1.1061	1.0956	1.0857	1.0762	1.0672
0.90	1.1666	1.1532	1.1404	1.1282	1.1166	1.1056	1.0951	1.0852	1.0757	1.0668
0.95	1.1659	1.1525·	1.1398	1.1276	1.1160	1.1050	1.0946	1.0847	1.0753	1.0663

present table for iron x-radiation, in the same form as Forman's table, is therefore offered for this commonly used radiation. Although the relation between Siegbahn's X.U. and true A.U. is now better known, there is

$\theta°$	65	66	67	68	69	70	71	72	73	74
0.00	1.0659	1.0575	1.0494	1.0419	1.0348	1.0280	1.0217	1.0157	1.0102	1.0050
0.05	1.0655	1.0570	1.0491	1.0415·	1.0344	1.0277	1.0214	1.0155	1.0099	1.0047
0.10	1.0650	1.0566	1.0487	1.0412	1.0341	1.0274	1.0211	1.0152	1.0096	1.0045
0.15	1.0646	1 0562	1 0483	1.0408	1.0337	1.0270	1.0208	1.0149	1.0094	1.0042
0.20	1.0642	1.0558	1.0479	1.0404	1.0334	1.0267	1.0205	1.0146	1.0091	1.0040
0.25	1.0638	1.0554	1.0475·	1.0401	1.0330	1.0264	1.0202	1.0143	1.0088	1.0037
0.30	1.0633	1.0550	1.0472	1.0397	1.0327	1.0261	1.0199	1.0140	1.0086	1.0035
0.35	1.0629	1.0546	1.0468	1.0393	1.0324	1.0258	1.0196	1.0137	1.0083	1.0032
0.40	1.0625	1.0542	1.0464	1.0390	1.0320	1.0254	1.0193	1.0135	1.0080	1.0030
0.45	1.0620	1.0538	1.0460	1.0386	1.0317	1.0251	1.0190	1.0132	1.0078	1.0027
0.50	1.0616	1.0534	1.0456	1.0383	1.0313	1.0248	1.0187	1.0129	1.0075·	1.0025
0.55	1.0612	1.0530	1.0452	1.0379	1.0310	1.0245	1.0184	1.0126	1.0073	1.0022
0.60	1.0608	1.0526	1.0449	1.0376	1.0307	1.0242	1.0181	1.0123	1.0070	1.0020
0.65	1.0604	1.0522	1.0445·	1.0372	1.0303	1.0239	1.0178	1.0121	1.0067	1.0018
0.70	1.0599	1.0518	1.0441	1.0369	1.0300	1.0236	1.0175	1.0118	1.0065	1.0015·
0.75	1.0595·	1.0514	1.0437	1.0365·	1.0297	1.0232	1.0172	1.0115·	1.0062	1.0013
0.80	1.0591	1.0510	1.0434	1.0361	1.0293	1.0229	1.0169	1.0113	1.0060	1.0011
0.85	1.0587	1.0506	1.0430	1.0358	1.0290	1.0226	1.0166	1.0110	1.0057	1.0008
0.90	1.0583	1.0502	1.0426	1.0355	1.0287	1.0223	1.0163	1.0107	1.0055	1.0006
0.95	1.0579	1.0499	1.0423	1.0351	1.0283	1.0220	1.0160	1.0104	1.0052	1.0003

$\theta°$	75	76	77	78	79	80	81	82	83	84
0.00	1.0001	0.9956	0.9914	0.9876	0.9841	0.9809	0.9781	0.9755·	0.9733	0.9714
0.05	0.9999	0.9954	0.9912	0.9874	0.9839	0.9808	0.9779	0.9754	0.9732	0.9713
0.10	0.9996	0.9952	0.9910	0.9873	0.9838	0.9806	0.9778	0.9753	0.9731	0.9712
0.15	0.9994	0.9949	0.9909	0.9871	0.9836	0.9805	0.9777	0.9752	0.9730	0.9711
0.20	0.9992	0.9947	0.9906	0.9869	0.9834	0.9803	0.9775·	0.9751	0.9729	0.9710
0.25	0.9989	0.9945·	0.9904	0.9867	0.9833	0.9802	0.9774	0.9749	0.9728	0.9709
0.30	0.9987	0.9943	0.9903	0.9865·	0.9831	0.9800	0.9773	0.9748	0.9727	0.9708
0.35	0.9985	0.9941	0.9901	0.9863	0.9830	0.9799	0.9771	0.9747	0.9726	0.9708
0.40	0.9983	0.9939	0.9899	0.9862	0.9828	0.9797	0.9770	0.9746	0.9725	0.9707
0.45	0.9980	0.9937	0.9897	0.9860	0.9826	0.9796	0.9769	0.9745	0.9724	0.9706
0.50	0.9978	0.9935	0.9895	0.9858	0.9825	0.9795	0.9768	0.9744	0.9723	0.9705
0.55	0.9976	0.9933	0.9893	0.9856	0.9823	0.9793	0.9766	0.9742	0.9722	0.9704
0.60	0.9974	0.9931	0.9891	0.9855	0.9822	0.9792	0.9765	0.9741	0.9721	0.9703
0.65	0.9971	0.9929	0.9889	0.9853	0.9820	0.9790	0.9764	0.9740	0.9720	0.9703
0.70	0.9969	0.9927	0.9887	0.9851	0.9819	0.9789	0.9762	0.9739	0.9719	0.9702
0.75	0.9967	0.9925	0.9885·	0.9850	0.9817	0.9787	0.9761	0.9738	0.9718	0.9701
0.80	0.9965	0.9922	0.9883	0.9848	0.9815·	0.9786	0.9760	0.9737	0.9717	0.9700
0.85	0.9963	0.9920	0.9882	0.9846	0.9814	0.9785	0.9759	0.9736	0.9716	0.9700
0.90	0.9960	0.9918	0.9880	0.9844	0.9812	0.9783	0.9758	0.9735	0.9715·	0.9699
0.95	0.9958	0.9916	0.9878	0.9843	0.9811	0.9782	0.9756	0.9734	0.9714	0.9698

some advantage in retaining Siegbahn's scale. The table has therefore been computed for λ Fe$K\alpha_1 = 1.932076$ kX.