

Det Kgl. Danske Videnskabernes Selskab.
Mathematisk-fysiske Meddelelser. **X**, 9.

DIE RETROGRADEN PERIODISCHEN
BAHNEN UM DIE BEIDEN ENDLICHEN
MASSEN IM PROBLÈME RESTREINT, MIT
DIREKTER ABSOLUTER BEWEGUNG
(KLASSE 1)

VON

ELIS STRÖMGREN

MIT 7 FIGUREN



KØBENHAVN

HOVEDKOMMISSIONÆR: ANDR. FRED. HØST & SØN, KGL. HOF-BOGHANDEL

BIANCO LUNOS BOGTRYKKERI A/S

1930

In der Publikation des Kopenhagener Observatoriums No. 30 (Astron. Nachr. 4968) ist mit Hilfe numerischer Integration die Entwicklung der retrograden periodischen Bahnen um die beiden endlichen Massen im problème restreint mit direkter absoluter Bewegung — Klasse l — vom Unendlichen bis zu Bahnen mit (nach Innen gerichteten) Einbuchtungen und Spitzen und schliesslich zu einer Bahn mit kleinen Schleifen ($K = 11.30665$) verfolgt worden. Für die äusseren Bahnen dieser Klasse wurde in derselben Publikation von Herrn P. PEDERSEN eine Theorie aufgestellt, die mit der numerischen Rechnung eine befriedigende Übereinstimmung zeigte.

Die Darstellung der Rechnungsergebnisse der erwähnten Untersuchung endete mit der folgenden Bemerkung: »Die weitere Verfolgung dieser Klasse würde zu komplizierten Bahnen führen«. Es stellte sich aber nachher bei der Klasse l — wie bei mehreren anderen Klassen — heraus, dass die Weiterführung der Untersuchung nicht, wie früher vermutet, in ein uferloses Gebiet nicht-einfachperiodischer Bahnen führte, sondern dass die Entwicklung in ganz einfacher Weise einen natürlichen Abschluss fand. Es war hier wieder — wie bei den Klassen k_1 und k_2 und bei den unsymmetrischen librationsähnlichen Bahnen (Vgl. z. B. Publ. 47,

60 und 61, »Ergebnisse der exakten Naturwissenschaften« 1925 und »Tre Aartier Celest Mekanik paa Københavns Observatorium«) — das System der zu den Librationspunkten L_4 und L_5 asymptotischen Bahnen, das die Lösung brachte.

Die Entwicklung der Schleifen ist in den genannten Publikationen klargelegt worden, bis zu Bahnen, die asymptotisch in L_4 und L_5 hinein (bezw. von diesen Punkten hinaus) verlaufen. Die vorliegende Abhandlung gibt für die Klasse I das ganze nach Veröffentlichung der Publ. 30 erhaltene numerische Material, das schliesslich zu dieser Klärung führte.

Bei der Organisation der Arbeit bin ich vom Assistenten des Observatoriums Herrn Cand. Mag. JENS P. MÖLLER unterstützt worden. Die numerische Rechenarbeit ist in der Hauptsache von den Herren Dr. E. NOTEBOOM (Rathenow) und M. LÖKKEGAARD (Kopenhagen) ausgeführt worden. Eine Bahn der folgenden Zusammenstellung (Bahn No. 1) hat Herr Magister H. ERHARDT JENSEN (Kopenhagen) und eine (Bahn No. 17) Herr W. HARRIES (Göttingen) gerechnet. Die Zeichnungen zu den Figuren sind vom Herrn Ing. O. S. L. CHRISTENSEN ausgeführt worden.

Die gerechneten Bahnen sind alle im folgenden zusammengestellt. Wie aus dieser Zusammenstellung ersichtlich, ist das Problem von verschiedenen Ausgangspunkten aus in Angriff genommen worden. Das Hauptinteresse bieten selbstverständlich die Bahnen, wo in der (nach Innen gerichteten) Schleife die neue Einbuchtung (nach Aussen) auftritt, in zwei Fällen — den Bahnen 19 und 20 — fast

zu Spitzen weiterentwickelt. Hier liegt der Anfang der Entwicklung gegen die asymptotischen Bahnen hin ganz klar.

In den Figuren I—VII sind die Mehrzahl der Bahnen — ganz oder teilweise — eingezeichnet. Bei der Betrachtung dieser Figuren ist zu bemerken, dass η für den Librationspunkt L_4 den Wert $\sqrt{3} = 1.732 \dots$ hat.

Universitetsobservatorium, Kopenhagen, 1930, April 16.

ELIS STRÖMGREN.

Übersicht über die gerechneten Bahnen.

Gruppe	No.	ξ_0	ξ'_0	η_0	η'_0	K	Bemerkungen
I	1					9.2	$E_0 = \frac{\pi}{2}$ $F_0 = -1.0$ $F'_0 = 0$
II	2	0	-1.25	+1.0	0	10.7513	
	3	»	-1.35	»	»	10.4913	
	4	»	-1.65	»	»	9.5913	
III	5	0	-0.25	+1.8	0	10.9479	Periodisch
	6	»	-0.39	»	»	10.8683	
	7	»	-0.388736	»	»	10.8593	
	8	»	-0.4	»	»	10.8504	
IV	9	-4.5	0	0	+3.7	10.3002	
	10	»	»	»	+3.78	9.7018	
	11	»	»	»	+4.1	7.1802	
V	12	-4.0	0	0	+2.8	12.4266	
	13	»	»	»	+3.5	8.0166	
	14	»	»	»	+3.8	5.8266	
VI	15	0	-0.1	+1.5	0	11.1150	Einbuchtung
	16	»	-0.35	»	»	11.0025	ziemlich nahe periodisch
	17	»	-0.6	»	»	10.7650	
	18	»	-0.75	»	»	10.5625	
VII	19	0	-0.02	+1.65	0	11.0149	
	20	»	-0.025	»	»	11.0147	Einbuchtung
	21	»	-0.035	»	»	11.0141	Einbuchtung
	22	»	-0.03722	»	»	11.013943	Einbuchtung, Periodisch
	23	»	-0.04	»	»	11.0137	Einbuchtung
	24	»	-0.07	»	»	11.0104	Einbuchtung

Bahn 1.

$$E_0 = \frac{\pi}{2} \quad F_0 = -1.0 \quad F'_0 = 0 \quad K = 9.2$$

ψ	E	F	ξ	η
0.00	+ 1.57080	— 1.00000	0.00000	+ 1.17520
0.02	1.62004	1.00226	— 0.07608	1.17725
0.04	1.66905	1.00903	0.15242	1.18344
0.06	1.71759	1.02033	0.22924	1.19383
0.08	1.76539	1.03619	0.30681	1.20858
0.10	1.81216	1.05666	0.38535	1.22790
0.12	1.85754	1.08178	0.46510	1.25216
0.14	1.90112	1.11164	0.54626	1.28190
0.16	1.94238	1.14636	0.62898	1.31793
0.18	1.98072	1.18608	0.71330	1.36141
0.20	2.01533	1.23097	0.79913	1.41404
0.22	2.04523	1.28129	0.88602	1.47826
0.24	2.06913	1.33734	0.97301	1.55752
0.26	2.08538	1.39951	1.05816	1.65677
0.28	2.09179	1.46827	1.13784	1.78296
0.30	2.08539	1.54420	1.20529	1.94588
0.32	2.06218	1.62800	1.24802	2.15895
0.34	2.01656	1.72043	1.24298	2.43973
0.36	1.94067	1.82228	1.14733	2.80845
0.38	1.82323	1.93422	0.88207	3.27971
0.40	1.64808	2.05644	— 0.30676	3.83362
0.42	+ 1.39221	— 2.18828	+ 0.80222	+ 4.33382

Bahn 2.

$$\xi'_0 = -1.25 \quad \eta_0 = +1.0$$

t	ξ	η	t	ξ	η
0.0	0.00000	+1.00000	2.5	-1.30504	+3.62717
0.1	-0.12518	1.00334	2.6	1.10078	3.83811
0.2	0.25216	1.01311	2.7	0.86520	4.03889
0.3	0.38194	1.02861	2.8	0.59865	4.22554
0.4	0.51536	1.04886	2.9	-0.30198	4.39405
0.5	0.65229	1.07278	3.0	+0.02348	4.54042
0.6	0.79163	1.09963	3.1	0.37592	4.66073
0.7	0.93143	1.12945	3.2	0.75305	4.75121
0.8	1.06923	1.16326	3.3	1.15210	4.80829
0.9	1.20253	1.20307	3.4	1.56985	4.82864
1.0	1.32912	1.25142	3.5	2.00263	4.80926
1.1	1.44720	1.31097	3.6	2.44638	4.74754
1.2	1.55527	1.38406	3.7	2.89667	4.64127
1.3	1.65189	1.47251	3.8	3.34878	4.48875
1.4	1.73566	1.57751	3.9	3.79769	4.28878
1.5	1.80502	1.69963	4.0	4.23823	4.04070
1.6	1.85824	1.83887	4.1	4.66504	3.74445
1.7	1.89348	1.99470	4.2	5.07270	3.40056
1.8	1.90881	2.16607	4.3	5.45580	3.01014
1.9	1.90224	2.35151	4.4	5.80898	2.57496
2.0	1.87185	2.54911	4.5	6.12770	2.09738
2.1	1.81579	2.75657	4.6	6.40484	1.58038
2.2	1.73239	2.97123	4.7	6.63775	1.02750
2.3	1.62019	3.19011	4.8	6.82131	+0.44284
2.4	-1.47802	+3.40993	4.9	+6.95148	-0.16896

Bahn 3.

$$\xi'_0 = -1.35 \quad \eta_0 = +1.0$$

t	ξ	η	t	ξ	η
0.00	0.00000	+1.00000	0.08	-0.10814	+1.00278
0.04	-0.05402	+1.00070	0.12	-0.16244	+1.00623

t	ξ	η	t	ξ	η
0.16	-0.21702	+1.01100	1.52	-1.76355	+1.95196
0.20	0.27193	1.01703	1.56	1.77473	2.01649
0.24	0.32725	1.02426	1.60	1.78256	2.08341
0.28	0.38300	1.03263	1.64	1.78692	2.15263
0.32	0.43921	1.04204	1.68	1.78768	2.22404
0.36	0.49584	1.05242	1.72	1.78473	2.29752
0.40	0.55287	1.06370	1.76	1.77795	2.37295
0.44	0.61021	1.07579	1.80	1.76722	2.45019
0.48	0.66777	1.08867	1.84	1.75243	2.52910
0.52	0.72543	1.10230	1.88	1.73347	2.60951
0.56	0.78303	1.11667	1.92	1.71024	2.69127
0.60	0.84043	1.13182	1.96	1.68262	2.77419
0.64	0.89744	1.14778	2.00	1.65053	2.85810
0.68	0.95390	1.16465	2.04	1.61388	2.94279
0.72	1.00961	1.18254	2.08	1.57260	3.02807
0.76	1.06442	1.20156	2.12	1.52660	3.11373
0.80	1.11816	1.22186	2.16	1.47583	3.19957
0.84	1.17067	1.24360	2.20	1.42021	3.28535
0.88	1.22181	1.26695	2.24	1.35972	3.37085
0.92	1.27145	1.29205	2.28	1.29431	3.45584
0.96	1.31947	1.31907	2.32	1.22395	3.54009
1.00	1.36576	1.34815	2.36	1.14861	3.62336
1.04	1.41021	1.37942	2.40	1.06830	3.70541
1.08	1.45272	1.41300	2.44	0.98302	3.78599
1.12	1.49319	1.44899	2.48	0.89276	3.86485
1.16	1.53153	1.48747	2.52	0.79756	3.94173
1.20	1.56765	1.52852	2.56	0.69745	4.01639
1.24	1.60143	1.57218	2.60	0.59249	4.08857
1.28	1.63277	1.61849	2.64	0.48273	4.15801
1.32	1.66157	1.66747	2.68	0.36823	4.22446
1.36	1.68772	1.71912	2.72	0.24909	4.28767
1.40	1.71111	1.77343	2.76	-0.12540	4.34738
1.44	1.73162	1.83037	2.80	+0.00273	4.40334
1.48	-1.74914	+1.88989	2.84	+0.13518	+4.45531

t	ξ	η	t	ξ	η
2.88	+ 0.27182	+ 4.50304	3.84	+ 4.26701	+ 3.86310
2.92	0.41250	4.54630	3.88	4.43386	3.74775
2.96	0.55708	4.58485	3.92	4.59799	3.62490
3.00	0.70538	4.61846	3.96	4.75906	3.49457
3.04	0.85721	4.64691	4.00	4.91671	3.35685
3.08	1.01239	4.66998	4.04	5.07061	3.21181
3.12	1.17072	4.68747	4.08	5.22042	3.05955
3.16	1.33199	4.69915	4.12	5.36581	2.90018
3.20	1.49596	4.70485	4.16	5.50645	2.73382
3.24	1.66240	4.70436	4.20	5.64199	2.56061
3.28	1.83105	4.69753	4.24	5.77211	2.38072
3.32	2.00168	4.68417	4.28	5.89650	2.19430
3.36	2.17401	4.66415	4.32	6.01483	2.00156
3.40	2.34776	4.63731	4.36	6.12680	1.80269
3.44	2.52266	4.60352	4.40	6.23211	1.59791
3.48	2.69841	4.56266	4.44	6.33056	1.38745
3.52	2.87470	4.51462	4.48	6.42155	1.17155
3.56	3.05124	4.45931	4.52	6.50513	0.95047
3.60	3.22772	4.39663	4.56	6.58092	0.72448
3.64	3.40381	4.32653	4.60	6.64866	0.49388
3.68	3.57919	4.24893	4.64	6.70810	0.25895
3.72	3.75354	4.16381	4.68	6.75901	+ 0.01999
3.76	3.92651	4.07114	4.72	+ 6.80117	- 0.22265
3.80	+ 4.09778	+ 3.97090			

Bahn 4.

$$\xi'_0 = -1.65 \quad \eta_0 = +1.0$$

t	ξ	η	t	ξ	η
0.0	0.00000	+ 1.00000	0.4	- 0.66455	+ 1.10782
0.1	- 0.16517	1.00731	0.5	0.82789	1.16307
0.2	0.33117	1.02870	0.6	0.98448	1.22899
0.3	- 0.49806	+ 1.06274	0.7	- 1.13071	+ 1.30729

t	ξ	η	t	ξ	η
0.8	-1.26350	+1.40023	2.7	+1.17713	+4.71889
0.9	1.38031	1.50983	2.8	1.59987	4.74814
1.0	1.47897	1.63736	2.9	2.03947	4.73561
1.1	1.55745	1.78329	3.0	2.49150	4.67844
1.2	1.61372	1.94721	3.1	2.95114	4.57423
1.3	1.64570	2.12801	3.2	3.41323	4.42115
1.4	1.65136	2.32392	3.3	3.87236	4.21792
1.5	1.62871	2.53267	3.4	4.32289	3.96386
1.6	1.57593	2.75144	3.5	4.75906	3.65894
1.7	1.49141	2.97700	3.6	5.17501	3.30378
1.8	1.37389	3.20577	3.7	5.56491	2.89969
1.9	1.22237	3.43385	3.8	5.92301	2.44861
2.0	1.03631	3.65713	3.9	6.24374	1.95316
2.1	0.81562	3.87130	4.0	6.52172	1.41661
2.2	0.56070	4.07196	4.1	6.75194	0.84287
2.3	-0.27245	4.25465	4.2	6.92970	+0.23641
2.4	+0.04770	4.41494	4.3	7.05080	-0.39773
2.5	0.39777	4.54849	4.4	+7.11152	-1.05400
2.6	+0.77526	+4.65112			

Bahn 5.

$$\xi'_0 = -0.25 \quad \eta_0 = +1.8$$

t	ξ	η	t	ξ	η
0.0	0.00000	+1.80000	0.9	-0.09316	+2.04009
0.1	-0.02482	1.80325	1.0	0.07065	2.08941
0.2	0.04851	1.81295	1.1	-0.03855	2.14073
0.3	0.06998	1.82898	1.2	+0.00368	2.19307
0.4	0.08813	1.85115	1.3	0.05641	2.24533
0.5	0.10190	1.87914	1.4	0.11990	2.29631
0.6	0.11024	1.91257	1.5	0.19424	2.34478
0.7	0.11216	1.95094	1.6	0.27937	2.38945
0.8	-0.10675	+1.99368	1.7	+0.37502	+2.42898

t	ξ	η	t	ξ	η
1.8	+0.48076	+2.46202	3.1	+2.24800	+1.82262
1.9	0.59596	2.48724	3.2	2.35336	1.67724
2.0	0.71982	2.50335	3.3	2.44410	1.52101
2.1	0.85133	2.50909	3.4	2.51822	1.35574
2.2	0.98931	2.50331	3.5	2.57389	1.18357
2.3	1.13238	2.48499	3.6	2.60943	1.00703
2.4	1.27901	2.45323	3.7	2.62335	0.82892
2.5	1.42749	2.40732	3.8	2.61441	0.65247
2.6	1.57601	2.34673	3.9	2.58157	0.48124
2.7	1.72261	2.27119	4.0	2.52406	0.31920
2.8	1.86524	2.18064	4.1	2.44127	0.17074
2.9	2.00179	2.07530	4.2	2.33263	+0.04076
3.0	+2.13010	+1.95569	4.3	+2.19737	-0.06508

Bahn 6.

$$\xi_0' = -0.39 \quad \eta_0 = +1.8$$

t	ξ	η	t	ξ	η
0.0	0.00000	+1.80000	1.3	+0.03067	+2.43879
0.1	-0.03873	1.80464	1.4	0.11622	2.51188
0.2	0.07591	1.81853	1.5	0.21694	2.58130
0.3	0.10994	1.84148	1.6	0.33269	2.64516
0.4	0.13929	1.87321	1.7	0.46311	2.70155
0.5	0.16245	1.91329	1.8	0.60755	2.74855
0.6	0.17795	1.96120	1.9	0.76511	2.78428
0.7	0.18441	2.01624	2.0	0.93465	2.80689
0.8	0.18051	2.07757	2.1	1.11478	2.81466
0.9	0.16507	2.14422	2.2	1.30384	2.80599
1.0	0.13705	2.21503	2.3	1.49998	2.77947
1.1	0.09553	2.28872	2.4	1.70112	2.73390
1.2	-0.03981	+2.36384	2.5	+1.90502	+2.66832

t	ξ	η	t	ξ	η
2.6	+ 2.10928	+ 2.58205	3.3	+ 3.33407	+ 1.40735
2.7	2.31138	2.47469	3.4	3.45006	1.16937
2.8	2.50875	2.34618	3.5	3.54496	0.91913
2.9	2.69874	2.19676	3.6	3.61726	0.65912
3.0	2.87876	2.02704	3.7	3.66581	0.39198
3.1	3.04625	1.83797	3.8	3.68984	+ 0.12054
3.2	+ 3.19878	+ 1.63087	3.9	+ 3.68895	- 0.15229

Bahn 7.

Periodische Bahn.

$$\xi'_0 = - 0.388736 \quad \eta_0 = + 1.8$$

t	ξ	η	t	ξ	η
0.00	0.00000	+ 1.80000	0.95	- 0.15206	+ 2.17814
0.05	- 0.01941	1.80116	1.00	0.13646	2.21389
0.10	0.03861	1.80463	1.05	0.11747	2.25036
0.15	0.05743	1.81041	1.10	0.09502	2.28738
0.20	0.07566	1.81848	1.15	0.06903	2.32476
0.25	0.09311	1.82880	1.20	0.03942	2.36230
0.30	0.10958	1.84137	1.25	- 0.00613	2.39979
0.35	0.12489	1.85612	1.30	+ 0.03090	2.43704
0.40	0.13883	1.87301	1.35	0.07169	2.47383
0.45	0.15124	1.89199	1.40	0.11625	2.50994
0.50	0.16191	1.91298	1.45	0.16460	2.54512
0.55	0.17067	1.93593	1.50	0.21674	2.57917
0.60	0.17734	1.96076	1.55	0.27263	2.61182
0.65	0.18176	1.98737	1.60	0.33221	2.64286
0.70	0.18377	2.01565	1.65	0.39548	2.67202
0.75	0.18316	2.04551	1.70	0.46232	2.69910
0.80	0.17985	2.07681	1.75	0.53268	2.72383
0.85	0.17365	2.10945	1.80	0.60642	2.74598
0.90	- 0.16443	+ 2.14328	1.85	+ 0.68345	+ 2.76532

t	ξ	η	t	ξ	η
1.90	+0.76360	+2.78162	2.95	+2.78381	+2.11375
1.95	0.84676	2.79466	3.00	2.87220	2.02666
2.00	0.93273	2.80419	3.05	2.95746	1.93473
2.05	1.02137	2.81003	3.10	3.03930	1.83814
2.10	1.11243	2.81195	3.15	3.11739	1.73705
2.15	1.20573	2.80977	3.20	3.19146	1.63164
2.20	1.30104	2.80332	3.25	3.26123	1.52213
2.25	1.39811	2.79241	3.30	3.32642	1.40878
2.30	1.49671	2.77689	3.35	3.38679	1.29181
2.35	1.59655	2.75660	3.40	3.44212	1.17151
2.40	1.69737	2.73146	3.45	3.49217	1.04814
2.45	1.79887	2.70132	3.50	3.53678	0.92203
2.50	1.90078	2.66608	3.55	3.57572	0.79348
2.55	2.00277	2.62569	3.60	3.60889	0.66283
2.60	2.10455	2.58006	3.65	3.63611	0.53039
2.65	2.20579	2.52918	3.70	3.65729	0.39655
2.70	2.30617	2.47302	3.75	3.67236	0.26164
2.75	2.40538	2.41157	3.80	3.68124	+0.12602
2.80	2.50307	2.34488	3.85	3.68391	—0.00992
2.85	2.59892	2.27295	3.90	+3.68034	—0.14584
2.90	+2.69263	+2.19589			

Bahn 8.

$$\xi'_0 = -0.4 \quad \eta_0 = +1.8$$

t	ξ	η	t	ξ	η
0.0	0.00000	+1.80000	0.6	—0.18274	+1.96468
0.1	—0.03974	1.80475	0.7	0.18951	2.02090
0.2	0.07786	1.81893	0.8	0.18572	2.08355
0.3	0.11278	1.84238	0.9	0.17015	2.15165
0.4	0.14292	1.87479	1.0	0.14173	2.22401
0.5	—0.16674	+1.91575	1.1	—0.09955	+2.29930

t	ξ	η	t	ξ	η
1.2	-0.04286	+2.37605	2.6	+2.14669	+2.59776
1.3	+0.02886	2.45261	2.7	2.35260	2.48792
1.4	0.11596	2.52726	2.8	2.55366	2.35644
1.5	0.21854	2.59815	2.9	2.74722	2.20360
1.6	0.33646	2.66335	3.0	2.93062	2.03001
1.7	0.46932	2.72092	3.1	3.10126	1.83663
1.8	0.61649	2.76888	3.2	3.25669	1.62476
1.9	0.77704	2.80528	3.3	3.39458	1.39604
2.0	0.94980	2.82827	3.4	3.51285	1.15246
2.1	1.13334	2.83609	3.5	3.60966	0.89621
2.2	1.32599	2.82711	3.6	3.68349	0.62977
2.3	1.52586	2.79989	3.7	3.73316	0.35582
2.4	1.73081	2.75319	3.8	3.75783	+0.07716
2.5	+1.93857	+2.68606	3.9	+3.75709	-0.20330

Bahn 9.

$$\xi_0 = -4.5 \quad \eta'_0 = +3.7$$

t	ξ	η	t	ξ	η
0.0	-4.50000	0.00000	1.3	-2.09142	+3.69444
0.1	4.48323	+0.36942	1.4	1.77687	3.81281
0.2	4.43310	0.73541	1.5	1.45776	3.90183
0.3	4.35021	1.09458	1.6	1.13704	3.96165
0.4	4.23555	1.44364	1.7	0.81759	3.99271
0.5	4.09047	1.77946	1.8	0.50218	3.99576
0.6	3.91666	2.09913	1.9	-0.19344	3.97178
0.7	3.71610	2.39993	2.0	+0.10613	3.92201
0.8	3.49106	2.67946	2.1	0.39425	3.84791
0.9	3.24402	2.93557	2.2	0.66877	3.75112
1.0	2.97767	3.16644	2.3	0.92776	3.63346
1.1	2.69482	3.37059	2.4	1.16952	3.49691
1.2	-2.39841	+3.54687	2.5	+1.39252	+3.34354

t	ξ	η	t	ξ	η
2.6	+1.59547	+3.17555	3.4	+2.40519	+1.58564
2.7	1.77726	2.99520	3.5	2.39977	1.39194
2.8	1.93701	2.80483	3.6	2.37039	1.20729
2.9	2.07403	2.60680	3.7	2.31689	1.03400
3.0	2.18779	2.40350	3.8	2.23876	0.87439
3.1	2.27794	2.19733	3.9	2.13488	0.73070
3.2	2.34428	1.99070	4.0	+2.00295	+0.60500
3.3	+2.38670	+1.78601			

Bahn 10.

$$\xi_0 = -4.5 \quad \eta'_0 = +3.78$$

t	ξ	η	t	ξ	η
0.0	-4.50000	0.00000	2.0	+0.24190	+3.85651
0.1	4.48243	+0.37738	2.1	0.52814	3.76500
0.2	4.42992	0.75108	2.2	0.79844	3.65042
0.3	4.34313	1.11747	2.3	1.05076	3.51488
0.4	4.22312	1.47303	2.4	1.28329	3.36063
0.5	4.07137	1.81442	2.5	1.49444	3.19007
0.6	3.88969	2.13850	2.6	1.68291	3.00569
0.7	3.68028	2.44240	2.7	1.84755	2.81009
0.8	3.44558	2.72355	2.8	1.98750	2.60592
0.9	3.18829	2.97969	2.9	2.10209	2.39584
1.0	2.91134	3.20890	3.0	2.19084	2.18257
1.1	2.61779	3.40962	3.1	2.25340	1.96879
1.2	2.31084	3.58067	3.2	2.28957	1.75719
1.3	1.99374	3.72121	3.3	2.29920	1.55043
1.4	1.66975	3.83080	3.4	2.28211	1.35114
1.5	1.34213	3.90935	3.5	2.23801	1.16187
1.6	1.01410	3.95711	3.6	2.16626	0.98513
1.7	0.68877	3.97467	3.7	2.06554	0.82324
1.8	0.36913	3.96292	3.8	+1.93323	+0.67818
1.9	-0.05801	+3.92305			

Bahn 11.

$$\xi_0 = -4.5 \quad \eta'_0 = +4.1$$

t	ξ	η	t	ξ	η
0.0	-4.50000	0.00000	1.7	-0.17609	+3.90609
0.1	4.47924	+0.40922	1.8	+0.16061	3.83614
0.2	4.41722	0.81377	1.9	0.48146	3.73379
0.3	4.31482	1.20904	2.0	0.78307	3.60136
0.4	4.17345	1.59058	2.1	1.06230	3.44150
0.5	3.99507	1.95419	2.2	1.31631	3.25715
0.6	3.78209	2.29592	2.3	1.54258	3.05151
0.7	3.53741	2.61220	2.4	1.73893	2.82802
0.8	3.26426	2.89985	2.5	1.90346	2.59030
0.9	2.96623	3.15612	2.6	2.03460	2.34209
1.0	2.64718	3.37873	2.7	2.13105	2.08727
1.1	2.31116	3.56588	2.8	2.19173	1.82977
1.2	1.96236	3.71628	2.9	2.21568	1.57358
1.3	1.60507	3.82911	3.0	2.20193	1.32270
1.4	1.24358	3.90409	3.1	2.14926	1.08110
1.5	0.88214	3.94139	3.2	2.05570	0.85263
1.6	-0.52496	+3.94169	3.3	+1.91757	+0.64093

Bahn 12.

$$\xi_0 = -4.0 \quad \eta'_0 = +2.8$$

t	ξ	η	t	ξ	η
0.0	-4.00000	0.00000	0.8	-3.33568	+2.06934
0.1	3.98899	+0.27964	0.9	3.17210	2.28044
0.2	3.95610	0.55718	1.0	2.99516	2.47650
0.3	3.90168	0.83055	1.1	2.80650	2.65669
0.4	3.82635	1.09775	1.2	2.60782	2.82040
0.5	3.73095	1.35690	1.3	2.40076	2.96723
0.6	3.61654	1.60625	1.4	2.18697	3.09696
0.7	-3.48432	+1.84420	1.5	-1.96807	+3.20954

t	ξ	η	t	ξ	η
1.6	-1.74559	+ 3.30509	3.6	+ 1.96197	+ 2.52281
1.7	1.52099	3.38389	3.7	2.07257	2.39875
1.8	1.29561	3.44631	3.8	2.17421	2.27055
1.9	1.07073	3.49286	3.9	2.26661	2.13869
2.0	0.84747	3.52412	4.0	2.34949	2.00366
2.1	0.62688	3.54076	4.1	2.42249	1.86606
2.2	0.40986	3.54349	4.2	2.48526	1.72651
2.3	-0.19722	3.53306	4.3	2.53741	1.58571
2.4	+ 0.01035	3.51021	4.4	2.57858	1.44447
2.5	0.21226	3.47572	4.5	2.60836	1.30366
2.6	0.40801	3.43035	4.6	2.62637	1.16430
2.7	0.59720	3.37483	4.7	2.63224	1.02754
2.8	0.77948	3.30986	4.8	2.62562	0.89464
2.9	0.95456	3.23611	4.9	2.60620	0.76700
3.0	1.12221	3.15423	5.0	2.57366	0.64617
3.1	1.28224	3.06481	5.1	2.52771	0.53386
3.2	1.43447	2.96839	5.2	2.46802	0.43195
3.3	1.57872	2.86550	5.3	2.39414	0.34247
3.4	1.71485	2.75663	5.4	+ 2.30539	+ 0.26770
3.5	+ 1.84266	+ 2.64225			

Bahn 13.

$$\xi_0 = -4.0 \quad \eta'_0 = +3.5$$

t	ξ	η	t	ξ	η
0.0	-4.00000	0.00000	0.7	-3.17291	+ 2.21358
0.1	3.98200	+ 0.34928	0.8	2.94095	2.45208
0.2	3.92830	0.69425	0.9	2.68935	2.66247
0.3	3.83976	1.03067	1.0	2.42179	2.84296
0.4	3.71779	1.35447	1.1	2.14212	2.99224
0.5	3.56432	1.66183	1.2	1.85427	3.10948
0.6	-3.38176	+ 1.94925	1.3	-1.56221	+ 3.19437

t	ξ	η	t	ξ	η
1.4	-1.26986	+ 3.24706	2.75	+ 1.09440	+ 1.66253
1.5	0.98107	3.26817	2.80	1.08724	1.56586
1.6	0.69954	3.25876	2.85	1.07173	1.46929
1.7	0.42881	3.22027	2.90	1.04776	1.37284
1.8	-0.17217	3.15454	2.95	1.01521	1.27642
1.9	+ 0.06731	3.06372	3.00	0.97400	1.17980
2.0	0.28685	2.95025	3.05	0.92409	1.08251
2.1	0.48398	2.81680	3.10	0.86551	0.98384
2.2	0.65651	2.66620	3.15	0.79854	0.88280
2.3	0.80256	2.50141	3.20	0.72383	0.77807
2.4	0.92052	2.32544	3.25	0.64266	0.66814
2.5	1.00903	2.14124	3.30	0.55713	0.55179
2.6	1.06697	1.95164	3.35	0.47007	0.42887
2.7	+ 1.09334	+ 1.75918	3.40	0.38409	0.30114
			3.45	+ 0.30019	+ 0.17233

Bahn 14.

$$\xi_0 = -4.0 \quad \eta'_0 = +3.8$$

t	ξ	η	t	ξ	η
0.0	-4.00000	0.00000	1.3	-1.20407	+ 3.29635
0.1	3.97901	+ 0.37912	1.4	0.87792	3.31759
0.2	3.91640	0.75298	1.5	0.55884	3.30135
0.3	3.81324	1.11642	1.6	-0.25144	3.24909
0.4	3.67132	1.46449	1.7	+ 0.03992	3.16275
0.5	3.49301	1.79256	1.8	0.31112	3.04476
0.6	3.28134	2.09637	1.9	0.55835	2.89793
0.7	3.03979	2.37215	2.0	0.77809	2.72544
0.8	2.77231	2.61663	2.1	0.96917	2.53073
0.9	2.48319	2.82713	2.2	1.12272	2.31746
1.0	2.17699	3.00153	2.3	1.24212	2.08937
1.1	1.85849	3.13835	2.4	+ 1.32296	+ 1.85026
1.2	-1.53255	+ 3.23671			

Bahn 15.

$$\xi_0 = -0.10 \quad \eta_0 = +1.5$$

t	ξ	η	t	ξ	η
0.0	0.00000	+ 1.50000	3.3	- 2.22042	+ 2.38100
0.1	- 0.01013	1.49826	3.4	2.20004	2.59988
0.2	0.02105	1.49309	3.5	2.15262	2.83211
0.3	0.03352	1.48459	3.6	2.07587	3.07484
0.4	0.04833	1.47292	3.7	1.96777	3.32482
0.5	0.06621	1.45832	3.8	1.82663	3.57844
0.6	0.08790	1.44112	3.9	1.65109	3.83180
0.7	0.11410	1.42170	4.0	1.44025	4.08073
0.8	0.14551	1.40049	4.1	1.19363	4.32083
0.9	0.18276	1.37800	4.2	0.91129	4.54757
1.0	0.22648	1.35477	4.3	0.59380	4.75633
1.1	0.27725	1.33136	4.4	- 0.24230	4.94246
1.2	0.33564	1.30837	4.5	+ 0.14151	5.10134
1.3	0.40212	1.28635	4.6	0.55537	5.22851
1.4	0.47712	1.26583	4.7	0.99645	5.31964
1.5	0.56092	1.24724	4.8	1.46136	5.37070
1.6	0.65357	1.23093	4.9	1.94621	5.37797
1.7	0.75481	1.21717	5.0	2.44658	5.33813
1.8	0.86396	1.20624	5.1	2.95763	5.24831
1.9	0.97982	1.19857	5.2	3.47410	5.10615
2.0	1.10069	1.19496	5.3	3.99037	4.90987
2.1	1.22449	1.19680	5.4	4.50056	4.65829
2.2	1.34902	1.20607	5.5	4.99855	4.35090
2.3	1.47214	1.22526	5.6	5.47811	3.98783
2.4	1.59196	1.25710	5.7	5.93289	3.56995
2.5	1.70673	1.30415	5.8	6.35659	3.09884
2.6	1.81483	1.36863	5.9	6.74299	2.57680
2.7	1.91457	1.45227	6.0	7.08603	2.00684
2.8	2.00409	1.55619	6.1	7.37994	1.39268
2.9	2.08134	1.68097	6.2	7.61925	0.73871
3.0	2.14408	1.82662	6.3	7.79892	+ 0.04998
3.1	2.18988	1.99261	6.4	+ 7.91438	- 0.66786
3.2	- 2.21618	+ 2.17791			

Bahn 16.

$$\xi'_0 = -0.35 \quad \eta_0 = +1.5$$

t	ξ	η	t	ξ	η
0.0	0.00000	+ 1.50000	3.0	-0.01670	+ 2.54248
0.1	-0.03500	1.50077	3.1	+ 0.09009	2.59343
0.2	0.07001	1.50306	3.2	0.20718	2.63826
0.3	0.10503	1.50693	3.3	0.33414	2.67569
0.4	0.14004	1.51243	3.4	0.47036	2.70442
0.5	0.17499	1.51967	3.5	0.61505	2.72321
0.6	0.20981	1.52875	3.6	0.76726	2.73085
0.7	0.24439	1.53982	3.7	0.92588	2.72620
0.8	0.27856	1.55302	3.8	1.08958	2.70825
0.9	0.31211	1.56854	3.9	1.25692	2.67608
1.0	0.34476	1.58654	4.0	1.42627	2.62897
1.1	0.37620	1.60723	4.1	1.59590	2.56634
1.2	0.40604	1.63080	4.2	1.76393	2.48784
1.3	0.43385	1.65744	4.3	1.92843	2.39334
1.4	0.45911	1.68734	4.4	2.08734	2.28296
1.5	0.48127	1.72067	4.5	2.23862	2.15708
1.6	0.49974	1.75753	4.6	2.38018	2.01638
1.7	0.51388	1.79804	4.7	2.50998	1.86182
1.8	0.52305	1.84220	4.8	2.62604	1.69465
1.9	0.52655	1.88998	4.9	2.72650	1.51644
2.0	0.52372	1.94124	5.0	2.80963	1.32909
2.1	0.51386	1.99577	5.1	2.87391	1.13475
2.2	0.49633	2.05323	5.2	2.91806	0.93590
2.3	0.47049	2.11319	5.3	2.94107	0.73526
2.4	0.43575	2.17511	5.4	2.94228	0.53579
2.5	0.39160	2.23830	5.5	2.92139	0.34069
2.6	0.33755	2.30200	5.6	2.87847	+ 0.15333
2.7	0.27325	2.36530	5.7	2.81403	- 0.02278
2.8	0.19842	2.42722	5.8	+ 2.72903	- 0.18398
2.9	- 0.11291	+ 2.48667			

Bahn 17.

$$\xi'_0 = -0.6 \quad \eta_0 = +1.5$$

t	ξ	η	t	ξ	η
0.0	0.00000	+ 1.50000	2.4	+ 0.48627	+ 2.79630
0.1	-0.05988	1.50326	2.5	0.64906	2.82697
0.2	0.11898	1.51303	2.6	0.82154	2.84422
0.3	0.17652	1.52926	2.7	1.00232	2.84662
0.4	0.23167	1.55191	2.8	1.18979	2.83289
0.5	0.28354	1.58088	2.9	1.38218	2.80190
0.6	0.33122	1.61609	3.0	1.57753	2.75275
0.7	0.37375	1.65744	3.1	1.77376	2.68473
0.8	0.41013	1.70480	3.2	1.96864	2.59742
0.9	0.43938	1.75798	3.3	2.15986	2.49065
1.0	0.46049	1.81673	3.4	2.34506	2.36457
1.1	0.47249	1.88071	3.5	2.52185	2.21962
1.2	0.47447	1.94946	3.6	2.68787	2.05657
1.3	0.46557	2.02239	3.7	2.84081	1.87643
1.4	0.44500	2.09877	3.8	2.97847	1.68053
1.5	0.41209	2.17772	3.9	3.09881	1.47053
1.6	0.36628	2.25823	4.0	3.20002	1.24840
1.7	0.30710	2.33915	4.1	3.28051	1.01642
1.8	0.23426	2.41917	4.2	3.33902	0.77713
1.9	0.14759	2.49689	4.3	3.37460	0.53330
2.0	-0.04710	2.57081	4.4	3.38673	0.28786
2.1	+0.06701	2.63935	4.5	3.37529	+0.04389
2.2	0.19436	2.70087	4.6	3.34059	-0.19548
2.3	+0.33437	+2.75373	4.7	+3.28342	-0.42712

Bahn 18.

Ziemlich nahe periodische Bahn.

$$\xi'_0 = -0.75 \quad \eta_0 = +1.5$$

t	ξ	η	t	ξ	η
0.0	0.00000	+ 1.50000	0.2	-0.14835	+ 1.51899
0.1	-0.07480	+ 1.50476	0.3	-0.21939	+ 1.54261

t	ξ	η	t	ξ	η
0.4	-0.28660	+1.57546	2.4	+0.95662	+3.08757
0.5	0.34858	1.61736	2.5	1.17724	3.09202
0.6	0.40390	1.66808	2.6	1.40666	3.07588
0.7	0.45113	1.72733	2.7	1.64269	3.03772
0.8	0.48883	1.79476	2.8	1.88252	2.97638
0.9	0.51559	1.86991	2.9	2.12382	2.89096
1.0	0.53009	1.95218	3.0	2.36368	2.78089
1.1	0.53109	2.04078	3.1	2.59921	2.64594
1.2	0.51749	2.13474	3.2	2.82749	2.48623
1.3	0.48829	2.23289	3.3	3.04555	2.30225
1.4	0.44265	2.33383	3.4	3.25051	2.09487
1.5	0.37991	2.43601	3.5	3.43955	1.86530
1.6	0.29959	2.53766	3.6	3.61001	1.61513
1.7	0.20142	2.63689	3.7	3.75944	1.34629
1.8	-0.08536	2.73168	3.8	3.88560	1.06100
1.9	+0.04839	2.81992	3.9	3.98656	0.76176
2.0	0.19935	2.89945	4.0	4.06073	0.45133
2.1	0.36679	2.96809	4.1	4.10683	+0.13260
2.2	0.54971	3.02370	4.2	4.12400	-0.19135
2.3	+0.74684	+3.06418	4.3	+4.11175	-0.51741

Bahn 19.

$$\xi'_0 = -0.02 \quad \eta_0 = +1.65$$

t	ξ	η	t	ξ	η
0.00	0.00000	+1.65000	1.75	-0.27139	+1.52984
0.25	-0.00580	1.64542	2.00	0.37307	1.53377
0.50	0.01640	1.63223	2.25	0.48596	1.55954
0.75	0.03629	1.61204	2.50	0.60130	1.61372
1.00	0.06936	1.58755	2.75	0.70627	1.70284
1.25	0.11864	1.56244	3.00	0.78461	1.83269
1.50	-0.18592	+1.54139	3.25	-0.81813	+2.00585

t	ξ	η	t	ξ	η
3.50	-0.78833	+2.21949	5.25	+1.96759	+3.17787
3.75	0.67791	2.46341	5.50	2.60770	2.90500
4.00	0.47293	2.71937	5.75	3.21408	2.47190
4.25	-0.16489	2.96201	6.00	3.74127	1.88506
4.50	+0.24695	3.16092	6.25	4.14626	1.16432
4.75	0.75397	3.28341	6.50	+4.39268	+0.34198
5.00	+1.33719	+3.29790			

Bahn 20.

$$\xi'_0 = -0.025 \quad \eta_0 = +1.65$$

t	ξ	η	t	ξ	η
0.00	0.00000	+1.65000	3.50	-0.73367	+2.21766
0.25	-0.00701	1.64574	3.75	0.61997	2.45002
0.50	0.01855	1.63345	4.00	0.41535	2.69189
0.75	0.03888	1.61469	4.25	-0.11222	2.91890
1.00	0.07170	1.59200	4.50	+0.28950	3.10201
1.25	0.11984	1.56903	4.75	0.78091	3.21014
1.50	0.18488	1.55030	5.00	1.34320	3.21360
1.75	0.26683	1.54105	5.25	1.94802	3.08750
2.00	0.36354	1.54705	5.50	2.55895	2.81522
2.25	0.46998	1.57439	5.75	3.13433	2.39113
2.50	0.57757	1.62928	6.00	3.63098	1.82239
2.75	0.67398	1.71773	6.25	4.00810	1.12938
3.00	0.74374	1.84481	6.50	+4.23211	+0.34456
3.25	-0.76950	+2.01253			

Bahn 21.

$$\xi'_0 = -0.035 \quad \eta_0 = +1.65$$

t	ξ	η	t	ξ	η
0.000	0.00000	+1.65000	0.250	-0.00943	+1.64636
0.125	-0.00446	+1.64908	0.375	-0.01541	+1.64192

t	ξ	η	t	ξ	η
0.500	-0.02289	+1.63592	3.750	-0.50324	+2.41627
0.625	0.03233	1.62856	3.875	0.41322	2.52313
0.750	0.04415	1.62013	4.000	0.30148	2.62860
0.875	0.05874	1.61095	4.125	0.16748	2.72974
1.000	0.07641	1.60141	4.250	-0.01111	2.82336
1.125	0.09744	1.59194	4.375	+0.16725	2.90608
1.250	0.12202	1.58304	4.500	0.36672	2.97444
1.375	0.15026	1.57526	4.625	0.58586	3.02498
1.500	0.18217	1.56918	4.750	0.82264	3.05433
1.625	0.21765	1.56543	4.875	1.07451	3.05931
1.750	0.25648	1.56463	5.000	1.33835	3.03706
1.875	0.29830	1.56747	5.125	1.61054	2.98513
2.000	0.34258	1.57463	5.250	1.88703	2.90153
2.125	0.38861	1.58679	5.375	2.16339	2.78489
2.250	0.43549	1.60466	5.500	2.43488	2.63449
2.375	0.48210	1.62891	5.625	2.69660	2.45034
2.500	0.52712	1.66019	5.750	2.94362	2.23321
2.625	0.56904	1.69912	5.875	3.17102	1.98466
2.750	0.60618	1.74625	6.000	3.37415	1.70706
2.875	0.63672	1.80199	6.125	3.54868	1.40352
3.000	0.65873	1.86658	6.250	3.69079	1.07786
3.125	0.67025	1.94001	6.375	3.79726	0.73453
3.250	0.66928	2.02199	6.500	3.86564	0.37845
3.375	0.65387	2.11185	6.625	3.89430	+0.01494
3.500	0.62218	2.20856	6.750	+3.88246	-0.35049
3.625	-0.57247	+2.31066			

Bahn 22.

Periodische Bahn.

$$\xi'_0 = -0.03722 \quad \eta_0 = +1.65$$

t	ξ	η	t	ξ	η
0.000	0.00000	+1.65000	0.250	-0.00997	+1.64650
0.125	-0.00473	+1.64912	0.375	-0.01618	+1.64223

t	ξ	η	t	ξ	η
0.500	-0.02385	+1.63646	3.750	-0.47739	+2.40853
0.625	0.03344	1.62940	3.875	0.38744	2.51221
0.750	0.04533	1.62133	4.000	0.27630	2.61427
0.875	0.05990	1.61257	4.125	-0.14345	2.71185
1.000	0.07746	1.60348	4.250	+0.01117	2.80182
1.125	0.09827	1.59452	4.375	0.18715	2.88091
1.250	0.12251	1.58615	4.500	0.38359	2.94574
1.375	0.15027	1.57891	4.625	0.59902	2.99296
1.500	0.18157	1.57338	4.750	0.83145	3.01931
1.625	0.21628	1.57015	4.875	1.07832	3.02169
1.750	0.25419	1.56987	5.000	1.33655	2.99738
1.875	0.29493	1.57318	5.125	1.60258	2.94402
2.000	0.33796	1.58075	5.250	1.87241	2.85973
2.125	0.38257	1.59326	5.375	2.14168	2.74322
2.250	0.42787	1.61137	5.500	2.40574	2.59387
2.375	0.47280	1.63575	5.625	2.65980	2.41175
2.500	0.51601	1.66702	5.750	2.89901	2.19773
2.625	0.55604	1.70578	5.875	3.11859	1.95342
2.750	0.59124	1.75251	6.000	3.31400	1.68124
2.875	0.61984	1.80762	6.125	3.48104	1.38436
3.000	0.63997	1.87130	6.250	3.61604	1.06664
3.125	0.64971	1.94351	6.375	3.71595	0.73256
3.250	0.64712	2.02393	6.500	3.77847	0.38708
3.375	0.63030	2.11189	6.625	3.80214	+0.03552
3.500	0.59749	2.20634	6.750	+3.78640	-0.31661
3.625	-0.54700	+2.30584			

Bahn 23.

$$\xi'_0 = -0.04 \quad \eta_0 = +1.65$$

t	ξ	η	t	ξ	η
0.000	0.00000	+1.65000	0.250	-0.01064	+1.64667
0.125	-0.00508	+1.64916	0.375	-0.01715	+1.64261

t	ξ	η	t	ξ	η
0.500	-0.02506	+1.63714	3.750	-0.44501	+2.39884
0.625	0.03482	1.63046	3.875	0.35516	2.49853
0.750	0.04680	1.62284	4.000	0.24476	2.59632
0.875	0.06135	1.61459	4.125	-0.11336	2.68944
1.000	0.07878	1.60608	4.250	+0.03907	2.77485
1.125	0.09931	1.59774	4.375	0.21207	2.84939
1.250	0.12312	1.59004	4.500	0.40471	2.90981
1.375	0.15029	1.58348	4.625	0.61551	2.95287
1.500	0.18081	1.57863	4.750	0.84248	2.97544
1.625	0.21457	1.57607	4.875	1.08309	2.97459
1.750	0.25133	1.57643	5.000	1.33430	2.94770
1.875	0.29071	1.58033	5.125	1.59261	2.89255
2.000	0.33217	1.58842	5.250	1.85410	2.80738
2.125	0.37501	1.60136	5.375	2.11449	2.69103
2.250	0.41836	1.61978	5.500	2.36926	2.54299
2.375	0.46115	1.64432	5.625	2.61372	2.36343
2.500	0.50210	1.67558	5.750	2.84315	2.15329
2.625	0.53976	1.71411	5.875	3.05293	1.91429
2.750	0.57254	1.76036	6.000	3.23867	1.64891
2.875	0.59871	1.81468	6.125	3.39633	1.36037
3.000	0.61648	1.87721	6.250	3.52244	1.05260
3.125	0.62398	1.94789	6.375	3.61412	0.73011
3.250	0.61936	2.02636	6.500	3.66930	0.39789
3.375	0.60079	2.11194	6.625	3.68673	+0.06129
3.500	0.56657	2.20356	6.750	+3.66610	-0.27418
3.625	-0.51511	+2.29980			

Bahn 24.

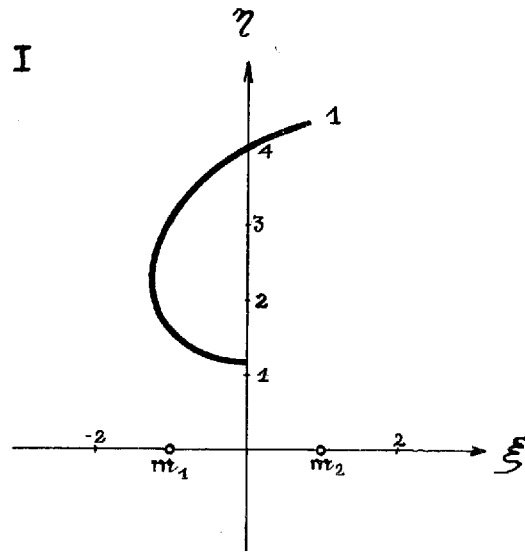
$$\xi'_0 = -0.07 \quad \eta_0 = +1.65$$

t	ξ	η	t	ξ	η
0.0	0.00000	+1.65000	0.2	-0.01419	+1.64905
0.1	-0.00702	+1.64976	0.3	-0.02167	+1.64791

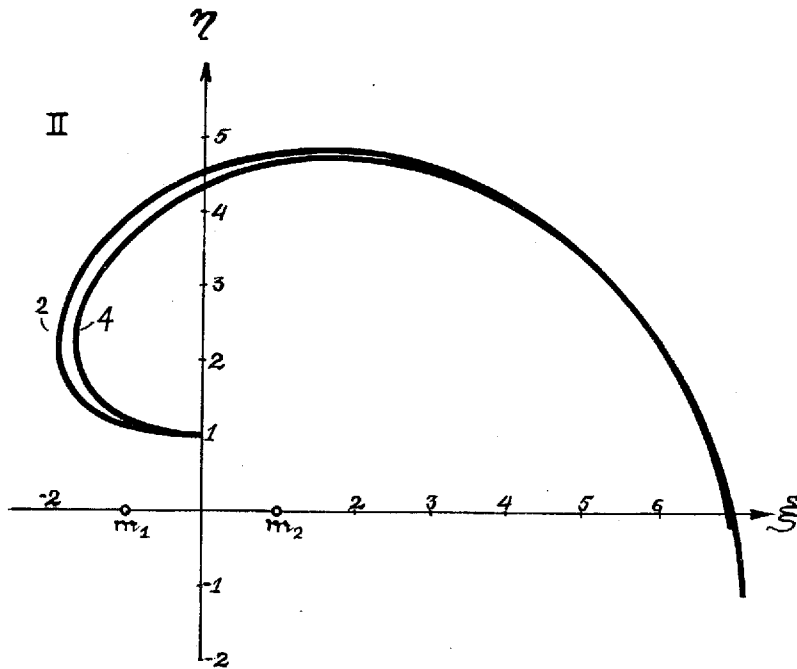
t	ξ	η	t	ξ	η
0.4	-0.02958	+ 1.64637	3.6	-0.20732	+ 2.21904
0.5	0.03806	1.64451	3.7	0.15131	2.26877
0.6	0.04724	1.64240	3.8	0.08657	2.31722
0.7	0.05723	1.64014	3.9	-0.01298	2.36347
0.8	0.06812	1.63785	4.0	+ 0.06947	2.40655
0.9	0.08001	1.63566	4.1	0.16066	2.44545
1.0	0.09294	1.63372	4.2	0.26034	2.47911
1.1	0.10695	1.63220	4.3	0.36811	2.50646
1.2	0.12205	1.63125	4.4	0.48343	2.52644
1.3	0.13823	1.63108	4.5	0.60561	2.53799
1.4	0.15543	1.63187	4.6	0.73380	2.54012
1.5	0.17358	1.63381	4.7	0.86698	2.53189
1.6	0.19257	1.63714	4.8	1.00401	2.51245
1.7	0.21223	1.64207	4.9	1.14358	2.48107
1.8	0.23237	1.64881	5.0	1.28425	2.43716
1.9	0.25274	1.65757	5.1	1.42446	2.38027
2.0	0.27304	1.66855	5.2	1.56255	2.31015
2.1	0.29295	1.68197	5.3	1.69673	2.22672
2.2	0.31208	1.69801	5.4	1.82516	2.13017
2.3	0.33001	1.71685	5.5	1.94592	2.02087
2.4	0.34627	1.73863	5.6	2.05704	1.89950
2.5	0.36034	1.76346	5.7	2.15658	1.76699
2.6	0.37170	1.79141	5.8	2.24257	1.62457
2.7	0.37976	1.82253	5.9	2.31308	1.47375
2.8	0.38394	1.85680	6.0	2.36623	1.31637
2.9	0.38363	1.89412	6.1	2.40018	1.15459
3.0	0.37823	1.93437	6.2	2.41321	0.99091
3.1	0.36715	1.97731	6.3	2.40358	0.82818
3.2	0.34980	2.02267	6.4	2.36961	0.66964
3.3	0.32563	2.07005	6.5	2.30952	0.51899
3.4	0.29412	2.11897	6.6	2.22112	0.38037
3.5	-0.25482	+ 2.16886	6.7	+ 2.10150	+ 0.25873

Forelagt paa Mødet den 15. November 1929.

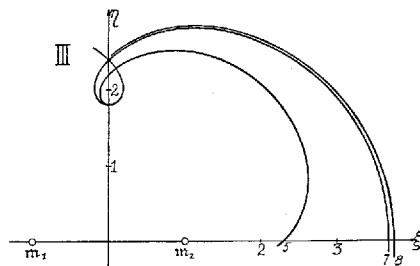
Færdig fra Trykkeriet den 30. Juni 1930.



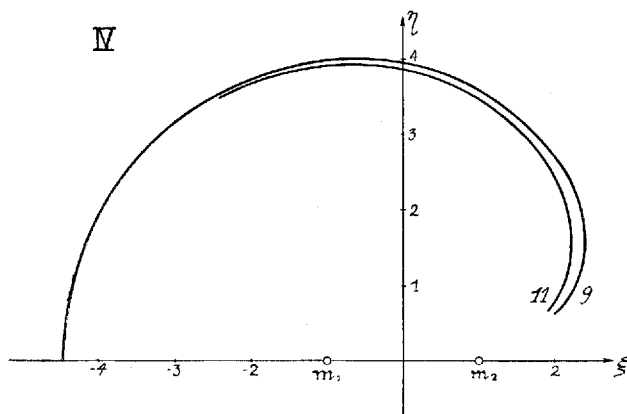
Bahn 1.



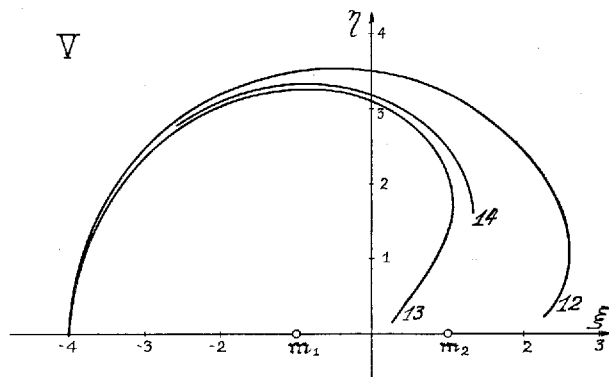
Bahnen 2 und 4.



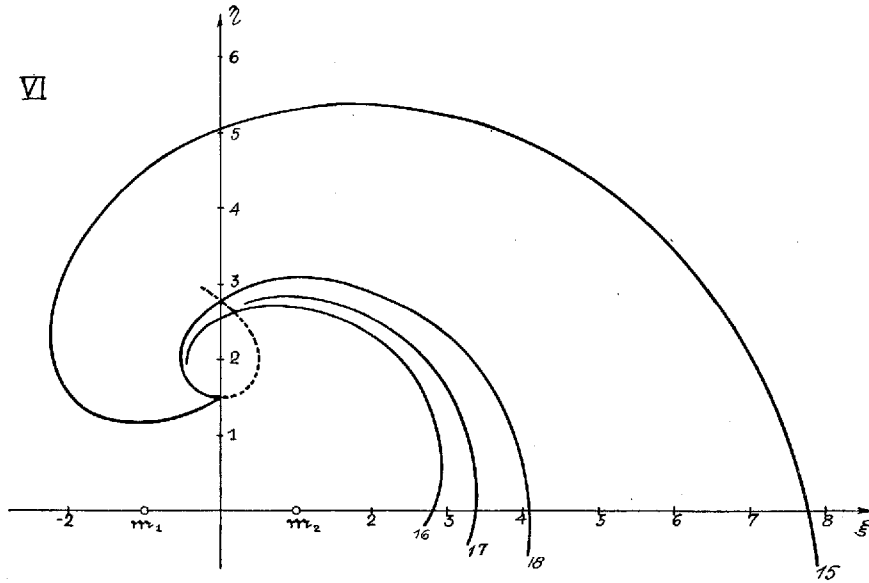
Bahnen 5, 7 und 8.



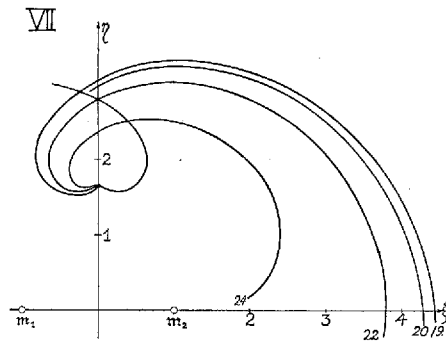
Bahnen 9 und 11.



Bahnen 12, 13 und 14.



Bahnen 15, 16, 17 und 18.



Bahnen 19, 20, 22 und 24.

