Исследование функции:
J(x) = 150 * sum_(i = 2)^(5)(x(i) - i * x(1))^4 + (x(1)-1)^2 ---> min
С ограничением:
g1(x) = sum_(i = 1)^(5)(i * x(i)^2) <= 224
Начальная точка равна X0(0.1; 1.5; 0.4; 1.2; 0.3), eps = 0.000001
Таблица решений F(x) в зависимости от изменения радиуса R от 224 до 223 с шагом 0.01, где значение точки минимума равно x (x_0, x_1, x_2, x_3, x_4):

R	x_0	x_1	x_2	x_3	x_4	F(x)
224.00	0.995081	1.982971	2.976088	3.969526	4.963434	3.07716e-05
223.99	0.995062	1.982947	2.976027	3.969453	4.963348	3.0945e-05
223.98	0.995045	1.982923	2.975974	3.969385	4.963263	3.11126e-05
223.97	0.995030	1.982895	2.975926	3.969322	4.963182	3.12709e-05
223.96	0.995016	1.982867	2.975880	3.969259	4.963099	3.14298e-05
223.95	0.995002	1.982838	2.975835	3.969198	4.963020	3.1585e-05
223.94	0.994989	1.982808	2.975789	3.969138	4.962942	3.17393e-05
223.93	0.994975	1.982777	2.975743	3.969077	4.962864	3.18934e-05
223.92	0.994962	1.982746	2.975698	3.969017	4.962787	3.20473e-05
223.91	0.994949	1.982715	2.975652	3.968956	4.962710	3.22019e-05
223.90	0.994936	1.982683	2.975606	3.968896	4.962635	3.23553e-05
223.89	0.994923	1.982652	2.975560	3.968835	4.962557	3.25111e-05
223.88	0.994948	1.982699	2.975644	3.968945	4.962697	3.22317e-05
223.87	0.994935	1.982666	2.975598	3.968884	4.962622	3.23851e-05
223.86	0.994921	1.982637	2.975551	3.968822	4.962541	3.25463e-05
223.85	0.994907	1.982605	2.975505	3.968761	4.962464	3.27017e-05
223.84	0.994894	1.982574	2.975459	3.968700	4.962386	3.28607e-05
223.83	0.994880	1.982544	2.975412	3.968638	4.962305	3.30221e-05
223.82	0.994866	1.982514	2.975366	3.968576	4.962225	3.31834e-05
223.81	0.994853	1.982484	2.975320	3.968515	4.962145	3.33445e-05
223.80	0.994839	1.982454	2.975273	3.968454	4.962065	3.35061e-05
223.79	0.994826	1.982425	2.975226	3.968393	4.961986	3.3667e-05
223.78	0.994814	1.982382	2.975182	3.968333	4.961919	3.38163e-05
223.77	0.994802	1.982343	2.975139	3.968274	4.961849	3.39673e-05
223.76	0.994789	1.982308	2.975095	3.968214	4.961773	3.41248e-05
223.75	0.994775	1.982276	2.975049	3.968153	4.961694	3.42878e-05
223.74	0.994762	1.982245	2.975003	3.968092	4.961615	3.44511e-05
223.73	0.994748	1.982213	2.974956	3.968031	4.961537	3.46134e-05
223.72	0.994735	1.982180	2.974910	3.967971	4.961460	3.47743e-05
223.71	0.994722	1.982141	2.974867	3.967912	4.961386	3.49324e-05
223.70	0.994796	1.982356	2.974909	3.968372	4.961850	3.40015e-05
223.69	0.994750	1.982659	2.975182	3.968001	4.961511	3.44664e-05
223.68	0.994748	1.982384	2.975299	3.968135	4.961361	3.45337e-05
223.67	0.994708	1.982249	2.975209	3.967995	4.961090	3.50206e-05
223.66	0.994693	1.982213	2.975136	3.967921	4.961012	3.52082e-05
223.65	0.994688	1.982194	2.975131	3.967902	4.960979	3.52662e-05
223.64	0.994690	1.982203	2.975137	3.967901	4.960992	3.5248e-05
223.63	0.994695	1.982310	2.975170	3.967897	4.961022	3.51792e-05
223.62	0.994704	1.982288	2.974717	3.967960	4.961230	3.51069e-05
223.61	0.994879	1.983717	2.976800	3.969387	4.961384	3.28683e-05
223.60	0.995021	1.983557	2.976701	3.969752	4.962556	3.12184e-05
223.59	0.994772	1.982756	2.975519	3.968277	4.961423	3.41866e-05
223.58	0.994877	1.983174	2.976011	3.968723	4.962004	3.29084e-05
223.57	0.994591	1.982559	2.974077	3.968589	4.960237	3.61649e-05
223.56	0.994817	1.983519	2.976504	3.969055	4.961052	3.36306e-05
223.55	0.994608	1.982032	2.974703	3.967419	4.960623	3.62836e-05

223.54	0.994596	1.982000	2.974650	3.967362	4.960563	3.64295e-05
223.53	0.994472	1.981815	2.974119	3.966625	4.959948	3.80407e-05
223.52	0.994511	1.981909	2.974146	3.967155	4.960094	3.74028e-05
223.51	0.994481	1.982068	2.974509	3.967171	4.959956	3.73619e-05
223.50	0.994464	1.981827	2.974065	3.966521	4.959770	3.83604e-05
223.49	0.994672	1.982094	2.974875	3.967466	4.961312	3.53884e-05
223.48	0.994570	1.982013	2.974723	3.967413	4.960260	3.67109e-05
223.47	0.994718	1.982657	2.975141	3.968280	4.961004	3.48586e-05
223.46	0.994464	1.981719	2.973926	3.966794	4.959848	3.8133e-05
223.45	0.994742	1.983216	2.976042	3.968410	4.960886	3.44714e-05
223.44	0.994428	1.981719	2.974192	3.966742	4.959428	3.85498e-05
223.43	0.994718	1.983025	2.975730	3.968134	4.960911	3.47797e-05
223.42	0.994451	1.982063	2.973831	3.967160	4.959574	3.81574e-05
223.41	0.994605	1.982916	2.975719	3.967920	4.960025	3.60938e-05
223.40	0.994538	1.982373	2.974139	3.968064	4.959862	3.69607e-05
223.39	0.994636	1.982585	2.975114	3.967711	4.960555	3.58466e-05
223.38	0.994362	1.981429	2.973044	3.966615	4.959364	3.94025e-05
223.37	0.994366	1.981439	2.973740	3.966541	4.959127	3.93582e-05
223.36	0.994373	1.981612	2.973201	3.966823	4.959256	3.92392e-05
223.35	0.994264	1.981340	2.973752	3.966068	4.958396	4.06757e-05
223.34	0.994362	1.981880	2.973211	3.966550	4.959178	3.94774e-05
223.33	0.994284	1.981326	2.973424	3.966021	4.958720	4.04619e-05
223.32	0.994270	1.981293	2.973359	3.965967	4.958642	4.06424e-05
223.31	0.994272	1.981234	2.973455	3.965976	4.958632	4.06137e-05
223.30	0.994304	1.981403	2.973602	3.966106	4.958845	4.01327e-05
223.29	0.994258	1.981192	2.973367	3.965892	4.958577	4.08049e-05
223.28	0.994392	1.981512	2.973770	3.966508	4.959395	3.90266e-05
223.27	0.994340	1.981963	2.973890	3.966729	4.958623	3.96852e-05
223.26	0.994269	1.981518	2.973109	3.966208	4.958588	4.06006e-05
223.25	0.994319	1.981507	2.973412	3.966249	4.958919	3.99973e-05
223.24	0.994132	1.981237	2.973308	3.965477	4.957584	4.24448e-05
223.23	0.994253	1.981325	2.973104	3.965928	4.958575	4.08845e-05
223.22	0.994247	1.981322	2.973117	3.965909	4.958523	4.09582e-05
223.21	0.994047	1.980941	2.972771	3.964816	4.957595	4.33254e-05
223.20	0.994122	1.980982	2.973125	3.965233	4.957717	4.26139e-05
223.19	0.994091	1.981198	2.972435	3.964700	4.957799	4.33035e-05
223.18	0.994206	1.981319	2.972839	3.965740	4.958275	4.15561e-05
223.17	0.994400	1.982084	2.974476	3.966989	4.958894	3.88608e-05
223.16	0.994016	1.980768	2.972764	3.964787	4.956891	4.43058e-05
223.15	0.994139	1.980978	2.973025	3.965251	4.957907	4.24054e-05
223.14	0.994150	1.981098	2.973124	3.965273	4.957987	4.22094e-05
223.13	0.994248	1.981599	2.973782	3.965822	4.958357	4.08591e-05
223.12	0.994053	1.980670	2.972552	3.964948	4.957436	4.35813e-05
223.11	0.994005	1.980682	2.972382	3.964764	4.957117	4.42355e-05
223.10	0.993984	1.980688	2.972310	3.964676	4.956981	4.45256e-05
223.09	0.993900	1.980576	2.972193	3.964026	4.956525	4.57873e-05
223.08	0.993933	1.980635	2.972412	3.964505	4.956550	4.52043e-05
223.07	0.993901	1.980506	2.972283	3.964339	4.956386	4.56628e-05
223.06	0.993887	1.980482	2.972215	3.964278	4.956312	4.5856e-05
223.05	0.993873	1.980452	2.972153	3.964213	4.956237	4.60514e-05
223.04	0.993859	1.980419	2.972092	3.964147	4.956162	4.62504e-05
223.03	0.993845	1.980386	2.972031	3.964081	4.956087	4.64491e-05
223.02	0.993831	1.980353	2.971970	3.964014	4.956011	4.665e-05
223.01	0.993817	1.980320	2.971910	3.963947	4.955935	4.68515e-05
223.00	0.993803	1.980287	2.971849	3.963880	4.955859	4.70537e-05

Для исследования зависимости числа итераций была написана программа main.cpp, которая на каждом шаге, равному 0.01, считает значение точки минимума вида (x_0, x_1, x_2, x_3, x_4) и значение минимума функции F(x) в этой точке. По таблице видно, что минимум функции возрастает при уменьшении радиуса допустимой области G. Чем значение радиуса области больше, тем больше значение минимума функции F(x).