

## Profile Summary (Total time: 2123.628 s)

Generated 01-Mar-2021 18:28:19 using performance time.

Function Name	Calls	Total Time (s)	Self Time* (s)	Total Time Plot (dark band = self time)
<a href="#">Boss_2_RC_nnlc_accuracy</a>	1	2123.628	0.094	
<a href="#">clientconstraint fixedrank equality nonneg lowrankcompletion</a>	1	2123.502	0.040	
<a href="#">rlbfgs</a>	15605	1387.038	12.757	
<a href="#">linsearch_hint</a>	65933	933.147	11.358	
<a href="#">getCost</a>	1398679	849.778	114.458	
<a href="#">almbddmultiplier</a>	1	601.793	0.396	
<a href="#">SQP</a>	1	600.309	23.893	
<a href="#">exactpenaltyViaSmoothinglse</a>	1	600.092	3.479	
<a href="#">hessianmatrix</a>	2090	513.708	3.917	
<a href="#">getHessian</a>	158840	486.174	6.743	
<a href="#">SQP&gt;@(X,d)hessLagrangian(X,d,mus,lambdas)</a>	79420	464.632	0.352	
<a href="#">SQP&gt;hessLagrangian</a>	79420	464.280	103.661	
<a href="#">...nk_equality_nonneg_lowrankcompletion&gt;@(Y)nncostfun(Y,row,col)</a>	61842607	396.507	159.328	
<a href="#">almbddmultiplier&gt;@(X)cost_alm(X,problem0,rho,lambdas,gammas)</a>	371133	382.301	16.007	
<a href="#">almbddmultiplier&gt;cost_alm</a>	371133	366.293	103.906	
<a href="#">getCostGrad</a>	81538	355.334	1.469	
<a href="#">getGradient</a>	156164	340.618	11.860	
<a href="#">fixedrankembeddedfactory&gt;projection</a>	15103094	330.591	268.987	
<a href="#">exactpenaltyViaSmoothinglqh</a>	2	314.575	3.647	
<a href="#">fixedrankembeddedfactory&gt;ehess2rhess</a>	7862580	296.543	114.526	
<a href="#">...tpenaltyViaSmoothinglse&gt;@(X)grad_exactpenalty(X,problem0,rho)</a>	44773	288.603	1.934	
<a href="#">exactpenaltyViaSmoothinglse&gt;grad_exactpenalty</a>	44773	284.582	103.946	
<a href="#">...nstraint_fixedrank_equality_nonneg_lowrankcompletion&gt;nncostfun</a>	61842607	237.179	237.179	
<a href="#">...ctpenaltyViaSmoothinglse&gt;@(X)cost_exactpenalty(X,problem0,rho)</a>	163026	138.270	6.816	
<a href="#">...nk_equality_nonneg_lowrankcompletion&gt;@(Y)eqcostfun(Y,row,col)</a>	20736375	136.657	55.022	
<a href="#">exactpenaltyViaSmoothinglse&gt;cost_exactpenalty</a>	163026	131.454	45.201	
<a href="#">...ctpenaltyViaSmoothinglqh&gt;@(X)cost_exactpenalty(X,problem0,rho)</a>	153421	129.546	6.452	
<a href="#">exactpenaltyViaSmoothinglqh&gt;cost_exactpenalty</a>	153421	123.095	41.868	
<a href="#">fixedrankembeddedfactory&gt;lincomb</a>	16645978	111.187	111.187	
<a href="#">...nstraint_fixedrank_equality_nonneg_lowrankcompletion&gt;eqcostfun</a>	20736375	81.635	81.635	
<a href="#">...tpenaltyViaSmoothinglqh&gt;@(X)grad_exactpenalty(X,problem0,rho)</a>	31921	73.079	1.394	
<a href="#">exactpenaltyViaSmoothinglqh&gt;grad_exactpenalty</a>	31921	69.537	25.431	
<a href="#">exactpenaltyViaSmoothinglse&gt;KKT_residual</a>	7489	59.483	2.461	
<a href="#">fixedrankembeddedfactory&gt;project_tangent</a>	1171678	56.022	4.813	
<a href="#">fixedrankembeddedfactory&gt;apply_ambient</a>	22965674	48.220	48.220	
<a href="#">StoreDB&gt;StoreDB.getNewKey</a>	1569415	45.588	45.588	
<a href="#">fixedrankembeddedfactory&gt;apply_ambient_transpose</a>	22965674	39.135	39.135	
<a href="#">fixedrankembeddedfactory&gt;retraction</a>	675700	37.851	37.851	
<a href="#">StoreDB&gt;StoreDB.getWithShared</a>	1909858	33.658	8.740	
<a href="#">StoreDB&gt;StoreDB.remove</a>	606042	32.279	6.728	
<a href="#">exactpenaltyViaSmoothinglqh&gt;KKT_residual</a>	7720	30.932	2.524	
<a href="#">StoreDB&gt;StoreDB.setWithShared</a>	1739094	28.163	11.748	
<a href="#">rmfield</a>	633974	27.122	27.122	
<a href="#">StoreDB&gt;StoreDB.get</a>	1909858	24.917	24.917	

...@ (x.d1.d2)d1.M(:).*d2.M(:)+d1.Up(:).*d2.Up(:)+d1.Vp(:).*d2.Vp(:)	12076726	23.561	23.561	'
<a href="#">fixedrankembeddedfactory&gt;tangent2ambient</a>	1251098	20.494	20.494	
<a href="#">SQP&gt;gradLagrangian</a>	4182	20.274	8.354	
<a href="#">tangentorthobasis</a>	2090	20.147	0.300	
<a href="#">orthogonalize</a>	2090	17.555	6.482	
<a href="#">almbddmultiplier&gt;@(X)grad_alm(X,problem0.rho,lambdas.gammas)</a>	6260	17.553	0.276	
<a href="#">almbddmultiplier&gt;grad_alm</a>	6260	17.036	5.923	
<a href="#">StoreDB&gt;StoreDB.set</a>	1739094	16.414	16.414	
<a href="#">rlbfgs&gt;getDirection</a>	65933	15.836	5.360	
<a href="#">evaluation</a>	15613	15.175	4.100	
<a href="#">...ixedrank_equality_nonneg_lowrankcompletion&gt;@(U)constraintgrad</a>	13762770	14.514	14.514	
<a href="#">SQP&gt;KKT_residual</a>	2091	13.199	0.598	
<a href="#">handle_light&gt;handle_light.delete</a>	897440	10.816	10.816	
<a href="#">getEuclideanGradient</a>	168646	10.214	4.054	
<a href="#">quadprog</a>	2090	9.417	0.330	
<a href="#">ipqpdense</a>	2090	8.651	0.271	
<a href="#">exactpenaltyViaSmoothinglqh&gt;savestats</a>	7718	7.684	0.260	
<a href="#">exactpenaltyViaSmoothinglse&gt;savestats</a>	7488	7.516	0.245	
<a href="#">...drank_equality_nonneg_lowrankcompletion&gt;@(X,U)constrainthess</a>	7783160	6.765	6.765	
<a href="#">struct2csv</a>	6	6.679	1.768	
<a href="#">optimlib/private/interiorPointQPMex (MEX-file)</a>	2090	6.195	6.195	
<a href="#">exactpenaltyViaSmoothinglqh&gt;maxabsLagrangemultipliers</a>	7718	6.031	2.086	
<a href="#">exactpenaltyViaSmoothinglse&gt;maxabsLagrangemultipliers</a>	7488	5.929	2.035	
<a href="#">SQP&gt;@(x)loneMeritFunction(x,rho)</a>	5815	5.616	0.043	
<a href="#">SQP&gt;loneMeritFunction</a>	5815	5.572	1.548	
<a href="#">num2str</a>	161525	5.481	1.187	
<a href="#">...tconstraint_fixedrank_equality_nonneg_lowrankcompletion&gt;objcost</a>	710334	5.232	5.232	
<a href="#">StoreDB&gt;StoreDB.purge</a>	65933	4.986	3.415	
<a href="#">StoreDB&gt;StoreDB.StoreDB</a>	897440	4.786	2.982	
<a href="#">exactpenaltyViaSmoothinglqh&gt;complementaryPowerViolation</a>	7720	4.657	1.546	
<a href="#">exactpenaltyViaSmoothinglse&gt;complementaryPowerViolation</a>	7489	4.515	1.493	
<a href="#">num2str&gt;handleNumericPrecision</a>	126165	3.652	0.282	
<a href="#">num2str&gt;convertUsingRecycledSprintf</a>	126165	3.370	3.370	
<a href="#">mergeOptions</a>	97153	3.367	3.367	
<a href="#">rlbfgs&gt;savestats</a>	81538	2.663	2.304	
<a href="#">...drank_equality_nonneg_lowrankcompletion&gt;euclidean_objhessian</a>	79420	2.623	1.025	
<a href="#">fixedrankembeddedfactory&gt;randomvec</a>	79420	2.290	1.795	
<a href="#">almbddmultiplier&gt;KKT_residual</a>	404	1.927	0.147	
<a href="#">handle_light&gt;handle_light.handle_light</a>	897440	1.804	1.804	
<a href="#">...@ (x,d)sqrt(norm(d.M,'fro')^2+norm(d.Up,'fro')^2+norm(d.Vp,'fro')^2)</a>	572088	1.781	1.781	
<a href="#">SQP&gt;const_evaluation</a>	2091	1.615	0.552	
<a href="#">...factory&gt;@()sprintf('Manifold of %dx%d matrices of rank %d',m,n,k)</a>	88507	1.467	1.467	
<a href="#">createExitMsg</a>	2090	1.372	0.535	
<a href="#">stoppingcriterion</a>	81538	1.263	1.263	
<a href="#">SQP&gt;complementaryPowerViolation</a>	2091	1.246	0.416	
<a href="#">...onstraint_fixedrank_equality_nonneg_lowrankcompletion&gt;eobjgrad</a>	168175	0.934	0.934	
<a href="#">createExitMsg&gt;msgArgs2Str</a>	4180	0.613	0.043	
<a href="#">schur</a>	2090	0.583	0.583	
<a href="#">presolve</a>	2090	0.496	0.242	
<a href="#">almbddmultiplier&gt;savestats</a>	403	0.495	0.018	

<a href="#">applyStatsfun</a>	83629	0.373	0.373	
<a href="#">canGetEuclideanGradient</a>	168646	0.371	0.371	
<a href="#">exactpenaltyViaSmoothinglse&gt;manifoldPowerViolation</a>	7489	0.363	0.090	
<a href="#">exactpenaltyViaSmoothinglqh&gt;manifoldPowerViolation</a>	7720	0.363	0.090	
<a href="#">fixedrankembeddedfactory&gt;tangent</a>	79420	0.325	0.325	
<a href="#">int2str</a>	24910	0.320	0.320	
<a href="#">almbddmultiplier&gt;@(x)complementaryPowerViolation(x,rho,lambdas)</a>	404	0.314	0.005	
<a href="#">almbddmultiplier&gt;complementaryPowerViolation</a>	404	0.309	0.087	
<a href="#">optimget</a>	33440	0.285	0.105	
<a href="#">rank</a>	17714	0.273	0.273	
<a href="#">createExitMsg&gt;stripHTMLTags</a>	6270	0.224	0.224	
<a href="#">canGetLineSearch</a>	65933	0.222	0.222	
<a href="#">prepareOptionsForSolver</a>	2090	0.203	0.203	
<a href="#">num2str&gt;cellPrintf</a>	10450	0.190	0.190	
<a href="#">optimget&gt;optimgetfast</a>	33440	0.180	0.180	
<a href="#">num2str&gt;strvrcat</a>	10450	0.132	0.053	
<a href="#">SQP&gt;savestats</a>	2091	0.114	0.100	
<a href="#">presolve&gt;forcingRedundantConstr</a>	2090	0.108	0.108	
<a href="#">postsolve</a>	2090	0.104	0.104	
<a href="#">SQP&gt;manifoldPowerViolation</a>	2091	0.100	0.028	
<a href="#">getGlobalDefaults</a>	15610	0.091	0.091	
<a href="#">strjust</a>	10450	0.080	0.031	
<a href="#">canGetCost</a>	15605	0.079	0.079	
<a href="#">rlbfgs&gt;@(t)t</a>	65933	0.076	0.076	
<a href="#">presolve&gt;emptyRows</a>	2090	0.073	0.073	
<a href="#">computeKKTErrorForQPLP</a>	2090	0.056	0.056	
<a href="#">checkbounds</a>	2090	0.051	0.051	
<a href="#">strjust&gt;strjustOnChar</a>	10450	0.049	0.049	
<a href="#">optimlib/private/classifyBoundsOnVars</a>	2090	0.038	0.030	
<a href="#">...edfactory&gt;@(X)struct('M',zeros(k,k),'Up',zeros(m,k),'Vp',zeros(n,k))</a>	2090	0.038	0.038	
<a href="#">canGetGradient</a>	15605	0.033	0.033	
<a href="#">isoptimargdbl</a>	2090	0.030	0.030	
<a href="#">almbddmultiplier&gt;manifoldPowerViolation</a>	404	0.022	0.007	
<a href="#">SQP&gt;musposiPowerViolation</a>	2091	0.022	0.022	
<a href="#">ipqpdense&gt;i_unwrapInternalOptions</a>	2090	0.015	0.015	
<a href="#">dlmwrite</a>	1	0.014	0.001	
<a href="#">dlmwrite&gt;parseinput</a>	1	0.013	0.002	
<a href="#">cell.ismember</a>	1	0.011	0.007	
<a href="#">canGetHessian</a>	2090	0.009	0.009	
<a href="#">close</a>	1	0.009	0.001	
<a href="#">optimlib/private/classifyBoundsOnVars&gt;equalFloat</a>	2090	0.008	0.008	
<a href="#">presolve&gt;freeLinearColumnSingletons</a>	2090	0.007	0.007	
<a href="#">close&gt;safegetchildren</a>	1	0.007	0.003	
<a href="#">fixedrankembeddedfactory&gt;random</a>	6	0.007	0.002	
<a href="#">presolve&gt;infiniteRHS</a>	2090	0.006	0.006	
<a href="#">presolve&gt;fixVarsEqBnds</a>	2090	0.006	0.006	
<a href="#">RandStream.RandStream&gt;getMethodNames</a>	1	0.006	0.006	
<a href="#">fixedrankembeddedfactory&gt;@()(m+n-k)*k</a>	4180	0.006	0.006	
<a href="#">presolve&gt;unconstrVars</a>	2090	0.006	0.006	

<a href="#">almbddmultiplier&gt;maxabsLagrangemultipliers</a>	403	0.006	0.006	
<a href="#">stiefelfactory&gt;@()qr_unique(randn(n,p,k,array_type))</a>	12	0.005	0.002	
<a href="#">functionNameClashCheck</a>	2090	0.005	0.005	
<a href="#">allchild</a>	1	0.005	0.004	
<a href="#">presolve&gt;singletonIneqs</a>	2090	0.005	0.005	
<a href="#">presolve&gt;singletonEqs</a>	2090	0.005	0.005	
<a href="#">fixedrankembeddedfactory</a>	1	0.004	0.003	
<a href="#">presolve&gt;dbltnEqualities</a>	2090	0.004	0.004	
<a href="#">constraintsdetail</a>	6	0.004	0.004	
<a href="#">nthroot</a>	7	0.003	0.003	
<a href="#">qr_unique</a>	12	0.003	0.003	
<a href="#">cell.unique</a>	2	0.003	0.002	
<a href="#">optimset</a>	1	0.003	0.003	
<a href="#">...raint_fixedrank_equality_nonneg_lowrankcompletion&gt;egradzerofun</a>	471	0.003	0.003	
<a href="#">RandStream.RandStream&gt;RandStream.RandStream</a>	1	0.002	0.001	
<a href="#">...constraint_fixedrank_equality_nonneg_lowrankcompletion&gt;zerofun</a>	766	0.001	0.001	
<a href="#">stiefelfactory</a>	2	0.001	0.001	
<a href="#">...straint_fixedrank_equality_nonneg_lowrankcompletion&gt;check_rank</a>	4	0.001	0.001	
<a href="#">ismember</a>	1	0.001	0.000	
<a href="#">randsample</a>	1	0.001	0.001	
<a href="#">cell.unique&gt;celluniqueR2012a</a>	2	0.001	0.001	
<a href="#">allchild&gt;getchildren</a>	1	0.001	0.001	
<a href="#">ismember&gt;ismemberR2012a</a>	1	0.001	0.000	
<a href="#">mpower</a>	6	0.000	0.000	
<a href="#">partialMatchString</a>	2	0.000	0.000	
<a href="#">ismember&gt;ismemberBuiltinTypes</a>	1	0.000	0.000	
<a href="#">close&gt;getEmptyHandleList</a>	1	0.000	0.000	
<a href="#">RandStream.RandStream&gt;RandStream.delete</a>	1	0.000	0.000	
<a href="#">RandStream.randperm</a>	1	0.000	0.000	
<a href="#">optimset&gt;checkfield</a>	1	0.000	0.000	
<a href="#">RandStream.RandStream&gt;getargs</a>	1	0.000	0.000	
<a href="#">RandStream.RandStream&gt;RandStream.algName</a>	1	0.000	0.000	
<a href="#">uitools/private/allchildRootHelper</a>	1	0.000	0.000	
<a href="#">allchild&gt;@()set(rootobj,'ShowHiddenHandles',Temp)</a>	1	0.000	0.000	
<a href="#">optimfun/private/uselargeoptimstruct</a>	1	0.000	0.000	
<a href="#">dlmwrite&gt;setdlm</a>	1	0.000	0.000	
<a href="#">close&gt;checkfigs</a>	1	0.000	0.000	
<a href="#">optimset&gt;displayType</a>	1	0.000	0.000	
<a href="#">cellstr</a>	1	0.000	0.000	
<a href="#">close&gt;request_close</a>	1	0.000	0.000	
<a href="#">optimset&gt;onDeprecationPathOptionCheck</a>	1	0.000	0.000	
<a href="#">optimfun/private/optimoptiongetfields</a>	1	0.000	0.000	
<a href="#">webwindowmanager&gt;webwindowmanager.delete</a>	1	0.000	0.000	

\*Self time is the time spent in a function excluding any time spent in child functions. The time includes any overhead time resulting from the profiling process.