Supplementary material for LHCb-PAPER-2024-034

The supplementary material reports the parameters of the default amplitude model, Table 2 and of the alternative models, Tables 3–33. Uncertainties are the 1σ standard deviations returned by amplitude fit.

The naming conventions for the model parameters are detailed in the following. Resonant states are indicated as L (Λ), D (Δ), K (K^* nonzero spin), K0 (K^* spin zero) and S (Σ^0) followed by their mass identification according to Ref. [1].

The Breit–Wigner mass and width are indicated as M or G, respectively, expressed in GeV. The γ parameter driving the exponential form factors of Bugg lineshapes is indicated as gamma, expressed in GeV^{-2}.

Each complex coupling is introduced in the amplitude fit via two fit parameters representing its real, Ar, and imaginary, Ai, parts. The number after the resonance specification labels the coupling for specific resonance and proton helicities, as described in Table 1.

Table 1: Definition of helicity couplings for different resonance and proton helicities, λ_R and λ_p, as defined for the specific decay channel (*e.g.* for K^* resonances is the opposite helicity $\bar{\lambda}_{K^*}$ defined in Appendix A of the main paper). Helicity couplings for baryonic resonances Λ and Δ do not depend on proton helicities for parity conservation in their decay.

Resonance type	Coupling number	λ_R	λ_p
Λ, Δ	1	1/2	
	2	-1/2	
K^*, $S \geq 1$	1	0	1/2
	2	-1	1/2
	3	1	-1/2
	4	0	-1/2
K^*, $S = 0$	1		-1/2
	2		1/2

Table 2: Default amplitude model.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.772134	±	0.028165
ArK0(700)1	-2.462831	±	0.097025
AiK0(700)1	-0.346828	±	0.115646
ArK0(700)2	-3.946039	±	0.174040
AiK0(700)2	2.992821	±	0.148824
ArK(892)2	1.899842	±	0.037059
AiK(892)2	0.519672	±	0.054923
ArK(892)3	-1.037137	±	0.036095
AiK(892)3	0.188471	±	0.038090
ArK(892)4	-0.240743	±	0.057470
AiK(892)4	-1.203884	±	0.040409
gammaK0(1430)	0.051629	±	0.006887
ArK0(1430)1	-1.591808	±	0.199900
AiK0(1430)1	4.177117	±	0.129260
ArK0(1430)2	1.295457	±	0.069292
AiK0(1430)2	1.033316	±	0.082425
ArK2(1430)1	-1.342387	±	0.058240
AiK2(1430)1	0.305656	±	0.067605
ArK2(1430)2	-0.543120	±	0.103525
AiK2(1430)2	2.486938	±	0.083704
ArK2(1430)3	1.466823	±	0.077247
AiK2(1430)3	0.850523	±	0.098556
ArK2(1430)4	0.951231	±	0.063243
AiK2(1430)4	-0.480711	±	0.088200
ArL(1405)1	-0.736593	±	0.074727
AiL(1405)1	0.738192	±	0.040446
ArL(1405)2	2.515640	±	0.071349
AiL(1405)2	1.070742	±	0.144780
ArL(1520)1	-0.138639	±	0.012400
AiL(1520)1	-0.181683	±	0.013184
ArL(1520)2	-0.117740	±	0.030258
AiL(1520)2	0.620490	±	0.014373
ArL(1600)1	1.197587	±	0.052506
AiL(1600)1	0.032520	±	0.097961
ArL(1600)2	0.507672	±	0.072835
AiL(1600)2	1.164037	±	0.076824
ArL(1670)1	-0.120532	±	0.007892
AiL(1670)1	-0.020033	±	0.009697
ArL(1670)2	-0.261174	±	0.009108
AiL(1670)2	-0.075730	±	0.014329
ArL(1690)1	0.153767	±	0.040538
AiL(1690)1	-0.492683	±	0.025045
ArL(1690)2	-0.848712	±	0.043032
AiL(1690)2	0.521892	±	0.035760
ArL(1710)1	0.373922	±	0.080602
AiL(1710)1	-0.255567	±	0.061146
ArL(1710)2	1.586555	±	0.070988
AiL(1710)2	0.360673	±	0.091051
ArL(1800)1	0.194322	±	0.080745
AiL(1800)1	-0.727000	±	0.076832
ArL(1800)2	-0.807670	±	0.076451
AiL(1800)2	-0.955267	±	0.114002
ArL(1810)1	0.048000	±	0.063680
AiL(1810)1	0.973788	±	0.041765
ArL(1810)2	-0.080907	±	0.047751
AiL(1810)2	0.106748	±	0.028117
ArL(1820)1	0.207532	±	0.060415
AiL(1820)1	1.048736	±	0.029960
ArL(1820)2	-0.495320	±	0.030466
AiL(1820)2	0.044287	±	0.029933
ArL(1830)1	0.503539	±	0.025815
AiL(1830)1	-0.043163	±	0.037206
ArL(1830)2	-0.213466	±	0.025480
AiL(1830)2	-0.301021	±	0.039827
ArL(1890)1	0.321371	±	0.020614
AiL(1890)1	-0.186139	±	0.037323
ArL(1890)2	0.071709	±	0.024107
AiL(1890)2	-0.445186	±	0.030273
ArL(2000)1	-1.454356	±	0.073892
AiL(2000)1	-2.637582	±	0.099606
ArL(2000)2	-0.707203	±	0.064408
AiL(2000)2	-1.518939	±	0.066560
ArD(1232)1	-1.497151	±	0.058539
AiD(1232)1	-0.069604	±	0.056761
ArD(1232)2	-3.317364	±	0.140694
AiD(1232)2	2.578479	±	0.115307
ArD(1600)1	0.281636	±	0.151438
AiD(1600)1	-2.994966	±	0.085713
ArD(1600)2	0.049784	±	0.093648
AiD(1600)2	-2.078400	±	0.053986
ArD(1620)1	-0.003587	±	0.057784
AiD(1620)1	1.196948	±	0.031571
ArD(1620)2	-0.666069	±	0.032669
AiD(1620)2	-0.623782	±	0.037023
ArD(1700)1	1.060989	±	0.101070
AiD(1700)1	-1.865999	±	0.088528
ArD(1700)2	1.485072	±	0.094956
AiD(1700)2	-1.090505	±	0.069031

Table 3: Alternative amplitude model with $\Delta^{++}(1232)$, $\Delta^{++}(1600)$, $\Delta^{++}(1620)$, $\Delta^{++}(1700)$ with free mass and width.

Parameter	Central value		Uncertainty
gammaK0(700)	-1.099058	±	0.047194
ArK0(700)1	-2.524994	±	0.084810
AiK0(700)1	-0.175253	±	0.130390
ArK0(700)2	-4.895570	±	0.174527
AiK0(700)2	3.606628	±	0.156226
ArK(892)2	1.888701	±	0.027775
AiK(892)2	0.665986	±	0.042414
ArK(892)3	-1.034038	±	0.027394
AiK(892)3	0.087025	±	0.027389
ArK(892)4	-0.138051	±	0.037471
AiK(892)4	-1.243381	±	0.028315
gammaK0(1430)	0.034990	±	0.012436
ArK0(1430)1	-0.907897	±	0.087281
AiK0(1430)1	3.965029	±	0.113213
ArK0(1430)2	1.421050	±	0.081311
AiK0(1430)2	0.756939	±	0.059049
ArK2(1430)1	-1.580819	±	0.096534
AiK2(1430)1	-0.012202	±	0.040499
ArK2(1430)2	-0.614301	±	0.080911
AiK2(1430)2	2.196725	±	0.074935
ArK2(1430)3	1.415728	±	0.068375
AiK2(1430)3	0.288133	±	0.073119
ArK2(1430)4	0.610957	±	0.060032
AiK2(1430)4	-0.667219	±	0.080633
ArL(1405)1	-0.487515	±	0.101524
AiL(1405)1	0.702951	±	0.078559
ArL(1405)2	2.393759	±	0.091257
AiL(1405)2	1.075759	±	0.138132
ArL(1520)1	-0.152826	±	0.011819
AiL(1520)1	-0.193311	±	0.014466
ArL(1520)2	-0.079680	±	0.019716
AiL(1520)2	0.646316	±	0.013833
ArL(1600)1	1.240063	±	0.088243
AiL(1600)1	-0.193057	±	0.073164
ArL(1600)2	1.031639	±	0.082379
AiL(1600)2	0.927407	±	0.062207
ArL(1670)1	0.198311	±	0.010914
AiL(1670)1	-0.041571	±	0.015208
ArL(1670)2	0.436571	±	0.010775
AiL(1670)2	0.096184	±	0.012185
ArL(1690)1	0.036484	±	0.030184
AiL(1690)1	-0.389327	±	0.028711
ArL(1690)2	-0.731737	±	0.037858
AiL(1690)2	0.646449	±	0.029765
ArL(1710)1	-0.175957	±	0.092421
AiL(1710)1	-0.629797	±	0.097020
ArL(1710)2	1.595830	±	0.060912
AiL(1710)2	-0.009516	±	0.098204
ArL(1800)1	0.032660	±	0.083613
AiL(1800)1	-0.272852	±	0.065975
ArL(1800)2	-0.335933	±	0.053837
AiL(1800)2	-0.058104	±	0.046153
ArL(1810)1	0.194137	±	0.058448
AiL(1810)1	1.408328	±	0.068823
ArL(1810)2	-0.308893	±	0.038050
AiL(1810)2	0.176711	±	0.049961
ArL(1820)1	0.148911	±	0.034335
AiL(1820)1	1.121837	±	0.039872
ArL(1820)2	-0.377638	±	0.021682
AiL(1820)2	0.028978	±	0.024944
ArL(1830)1	0.473725	±	0.031546
AiL(1830)1	-0.125187	±	0.041411
ArL(1830)2	-0.381193	±	0.047648
AiL(1830)2	-0.430743	±	0.039895
ArL(1890)1	0.410866	±	0.035807
AiL(1890)1	-0.220623	±	0.052470
ArL(1890)2	0.179856	±	0.041263
AiL(1890)2	-0.717875	±	0.039821
ArL(2000)1	-1.186390	±	0.077399
AiL(2000)1	-2.578637	±	0.085119
ArL(2000)2	-0.415397	±	0.055892
AiL(2000)2	-1.569033	±	0.059331
MD(1232)	1.233962	±	0.000037
GD(1232)	0.113987	±	0.000180
ArD(1232)1	-1.635286	±	0.048589
AiD(1232)1	-0.292684	±	0.062195
ArD(1232)2	-3.533195	±	0.086861
AiD(1232)2	2.181439	±	0.077365
MD(1600)	1.640107	±	0.001429
GD(1600)	0.299057	±	0.000948
ArD(1600)1	1.426406	±	0.100884
AiD(1600)1	-3.699768	±	0.109065
ArD(1600)2	1.399692	±	0.110905
AiD(1600)2	-2.265141	±	0.111640
MD(1620)	1.627352	±	0.003904
GD(1620)	0.150042	±	0.000239
ArD(1620)1	-0.129801	±	0.071938
AiD(1620)1	1.233150	±	0.043189
ArD(1620)2	-0.691524	±	0.042605
AiD(1620)2	-0.832343	±	0.052173
MD(1700)	1.691132	±	0.003680
GD(1700)	0.299891	±	0.021849
ArD(1700)1	2.492431	±	0.133753
AiD(1700)1	-1.640283	±	0.092979
ArD(1700)2	1.561896	±	0.080451
AiD(1700)2	-1.133688	±	0.101404

Table 4: Alternative amplitude model in which a Relativistic Breit–Wigner is used for the $K_0^*(700)$ contribution.

Parameter	Central value		Uncertainty
ArK0(700)1	-1.085760	±	0.080499
AiK0(700)1	-1.167169	±	0.055591
ArK0(700)2	-3.336979	±	0.118567
AiK0(700)2	1.717142	±	0.089835
ArK(892)2	2.135680	±	0.038053
AiK(892)2	0.406104	±	0.026620
ArK(892)3	-1.088753	±	0.023058
AiK(892)3	0.243355	±	0.025018
ArK(892)4	-0.243877	±	0.028276
AiK(892)4	-1.360539	±	0.033145
gammaK0(1430)	0.068035	±	0.007893
ArK0(1430)1	-2.326902	±	0.086455
AiK0(1430)1	4.077581	±	0.120523
ArK0(1430)2	0.714530	±	0.069521
AiK0(1430)2	1.681264	±	0.055549
ArK2(1430)1	-1.925820	±	0.108896
AiK2(1430)1	0.501191	±	0.033261
ArK2(1430)2	-0.619775	±	0.055478
AiK2(1430)2	2.901226	±	0.066514
ArK2(1430)3	1.399734	±	0.022769
AiK2(1430)3	1.305896	±	0.079130
ArK2(1430)4	0.909703	±	0.025086
AiK2(1430)4	-0.367887	±	0.030681
ArL(1405)1	-0.268270	±	0.046383
AiL(1405)1	0.487273	±	0.065976
ArL(1405)2	2.754544	±	0.075224
AiL(1405)2	1.669680	±	0.096050
ArL(1520)1	-0.100052	±	0.009593
AiL(1520)1	-0.165882	±	0.009165
ArL(1520)2	-0.132433	±	0.017233
AiL(1520)2	0.707089	±	0.013024
ArL(1600)1	1.873280	±	0.075533
AiL(1600)1	0.070555	±	0.057639
ArL(1600)2	1.223498	±	0.073245
AiL(1600)2	1.480226	±	0.061931
ArL(1670)1	0.240601	±	0.007093
AiL(1670)1	0.068862	±	0.010942
ArL(1670)2	0.413505	±	0.008074
AiL(1670)2	0.161320	±	0.009822
ArL(1690)1	0.303560	±	0.022284
AiL(1690)1	-0.407330	±	0.031435
ArL(1690)2	-1.041779	±	0.037067
AiL(1690)2	0.560341	±	0.027010
ArL(1710)1	1.094365	±	0.090239
AiL(1710)1	-0.684191	±	0.042783
ArL(1710)2	2.233013	±	0.068590
AiL(1710)2	-0.068154	±	0.086464
ArL(1800)1	0.829588	±	0.064130
AiL(1800)1	-0.479037	±	0.072481
ArL(1800)2	-0.373785	±	0.050868
AiL(1800)2	0.055466	±	0.050682
ArL(1810)1	-0.303557	±	0.056613
AiL(1810)1	0.887515	±	0.039049
ArL(1810)2	-0.495071	±	0.033417
AiL(1810)2	0.039746	±	0.034584
ArL(1820)1	0.109575	±	0.019482
AiL(1820)1	1.255198	±	0.027856
ArL(1820)2	-0.557371	±	0.023729
AiL(1820)2	0.278354	±	0.019788
ArL(1830)1	0.398385	±	0.030732
AiL(1830)1	-0.072201	±	0.030392
ArL(1830)2	-0.362341	±	0.033260
AiL(1830)2	-0.268445	±	0.024362
ArL(1890)1	0.261896	±	0.031441
AiL(1890)1	-0.013804	±	0.032436
ArL(1890)2	0.106986	±	0.029039
AiL(1890)2	-0.322958	±	0.025458
ArL(2000)1	-1.465454	±	0.073689
AiL(2000)1	-2.849811	±	0.076212
ArL(2000)2	-0.203794	±	0.055151
AiL(2000)2	-1.540660	±	0.058477
ArD(1232)1	-1.605118	±	0.027816
AiD(1232)1	-0.050306	±	0.048604
ArD(1232)2	-3.729309	±	0.069101
AiD(1232)2	3.231849	±	0.082859
ArD(1600)1	0.292167	±	0.047887
AiD(1600)1	-3.700057	±	0.101504
ArD(1600)2	0.276051	±	0.044637
AiD(1600)2	-1.927267	±	0.076740
ArD(1620)1	0.067148	±	0.017335
AiD(1620)1	1.549580	±	0.043398
ArD(1620)2	-0.835088	±	0.026465
AiD(1620)2	-0.726460	±	0.022732
ArD(1700)1	0.936575	±	0.066574
AiD(1700)1	-2.567601	±	0.074573
ArD(1700)2	1.513311	±	0.052127
AiD(1700)2	-1.360434	±	0.058263

Table 5: Alternative amplitude model with $K_0^*(700)$ with free mass and width.

Parameter	Central value		Uncertainty
MK0(700)	0.828000	±	0.002043
GK0(700)	0.498000	±	0.004670
gammaK0(700)	-0.614440	±	0.077131
ArK0(700)1	-2.211837	±	0.098836
AiK0(700)1	-0.375408	±	0.067000
ArK0(700)2	-3.867376	±	0.101213
AiK0(700)2	2.984740	±	0.174440
ArK(892)2	1.919957	±	0.018999
AiK(892)2	0.606609	±	0.034296
ArK(892)3	-1.063320	±	0.012153
AiK(892)3	0.130481	±	0.025436
ArK(892)4	-0.169890	±	0.027570
AiK(892)4	-1.232367	±	0.012357
gammaK0(1430)	0.053590	±	0.003467
ArK0(1430)1	-1.532839	±	0.045296
AiK0(1430)1	4.079967	±	0.071254
ArK0(1430)2	1.243179	±	0.042316
AiK0(1430)2	1.145115	±	0.041050
ArK2(1430)1	-1.400256	±	0.074281
AiK2(1430)1	0.182653	±	0.045570
ArK2(1430)2	-0.661910	±	0.048407
AiK2(1430)2	2.447804	±	0.034951
ArK2(1430)3	1.485324	±	0.026433
AiK2(1430)3	0.646915	±	0.045404
ArK2(1430)4	0.868263	±	0.013907
AiK2(1430)4	-0.345115	±	0.037873
ArL(1405)1	-0.857849	±	0.061903
AiL(1405)1	0.692267	±	0.048161
ArL(1405)2	2.455303	±	0.045389
AiL(1405)2	0.987484	±	0.062118
ArL(1520)1	-0.145037	±	0.006168
AiL(1520)1	-0.191292	±	0.006416
ArL(1520)2	-0.092591	±	0.009118
AiL(1520)2	0.643545	±	0.006741
ArL(1600)1	1.361779	±	0.035991
AiL(1600)1	-0.052600	±	0.057269
ArL(1600)2	0.641066	±	0.082013
AiL(1600)2	1.304007	±	0.031328
ArL(1670)1	0.201771	±	0.004802
AiL(1670)1	0.012934	±	0.006029
ArL(1670)2	0.410639	±	0.004611
AiL(1670)2	0.138939	±	0.007637
ArL(1690)1	0.245480	±	0.015647
AiL(1690)1	-0.402911	±	0.010564
ArL(1690)2	-0.881748	±	0.016959
AiL(1690)2	0.535615	±	0.029434
ArL(1710)1	0.203612	±	0.071982
AiL(1710)1	-0.514419	±	0.034370
ArL(1710)2	1.733266	±	0.032425
AiL(1710)2	0.343472	±	0.123124
ArL(1800)1	0.306305	±	0.061753
AiL(1800)1	-0.470093	±	0.056111
ArL(1800)2	-0.468400	±	0.038400
AiL(1800)2	-0.315730	±	0.015601
ArL(1810)1	-0.005965	±	0.031418
AiL(1810)1	1.186104	±	0.035102
ArL(1810)2	-0.328825	±	0.028638
AiL(1810)2	0.100807	±	0.040886
ArL(1820)1	0.167216	±	0.012041
AiL(1820)1	1.089089	±	0.016135
ArL(1820)2	-0.448220	±	0.013751
AiL(1820)2	0.078920	±	0.020897
ArL(1830)1	0.472727	±	0.019957
AiL(1830)1	-0.035610	±	0.025611
ArL(1830)2	-0.327986	±	0.022089
AiL(1830)2	-0.382064	±	0.032697
ArL(1890)1	0.345305	±	0.031301
AiL(1890)1	-0.188163	±	0.020438
ArL(1890)2	0.079203	±	0.010243
AiL(1890)2	-0.521189	±	0.017525
ArL(2000)1	-1.249738	±	0.082668
AiL(2000)1	-2.692121	±	0.049495
ArL(2000)2	-0.463771	±	0.026373
AiL(2000)2	-1.639915	±	0.025109
ArD(1232)1	-1.659372	±	0.028264
AiD(1232)1	-0.114522	±	0.034615
ArD(1232)2	-3.552034	±	0.048520
AiD(1232)2	2.441117	±	0.094383
ArD(1600)1	0.183741	±	0.049364
AiD(1600)1	-3.000549	±	0.066144
ArD(1600)2	0.310899	±	0.042354
AiD(1600)2	-2.112718	±	0.047409
ArD(1620)1	0.025073	±	0.022169
AiD(1620)1	1.164356	±	0.028414
ArD(1620)2	-0.749910	±	0.026800
AiD(1620)2	-0.700326	±	0.018919
ArD(1700)1	1.443929	±	0.054969
AiD(1700)1	-1.859320	±	0.057460
ArD(1700)2	1.263762	±	0.046280
AiD(1700)2	-1.133860	±	0.055669

Table 6: Alternative amplitude model in which a Relativistic Breit–Wigner is used for the $K_0^*(1430)$ contribution.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.749852	±	0.027545
ArK0(700)1	-2.300966	±	0.077066
AiK0(700)1	-0.962678	±	0.126620
ArK0(700)2	-4.053063	±	0.131560
AiK0(700)2	2.733005	±	0.154321
ArK(892)2	1.926662	±	0.020381
AiK(892)2	0.591894	±	0.060950
ArK(892)3	-1.069358	±	0.023059
AiK(892)3	0.084269	±	0.043616
ArK(892)4	-0.126627	±	0.063255
AiK(892)4	-1.236126	±	0.019118
ArK0(1430)1	-1.715678	±	0.234964
AiK0(1430)1	4.979118	±	0.078544
ArK0(1430)2	1.400475	±	0.054061
AiK0(1430)2	1.210360	±	0.093417
ArK2(1430)1	-1.274657	±	0.061458
AiK2(1430)1	-0.105362	±	0.068349
ArK2(1430)2	-0.684991	±	0.103052
AiK2(1430)2	2.319818	±	0.057878
ArK2(1430)3	1.412421	±	0.061611
AiK2(1430)3	0.609318	±	0.094047
ArK2(1430)4	0.887989	±	0.038789
AiK2(1430)4	-0.279931	±	0.080395
ArL(1405)1	-0.954337	±	0.090162
AiL(1405)1	0.735899	±	0.051661
ArL(1405)2	2.213099	±	0.061625
AiL(1405)2	1.082187	±	0.126398
ArL(1520)1	-0.143800	±	0.010165
AiL(1520)1	-0.205469	±	0.010642
ArL(1520)2	-0.148287	±	0.030030
AiL(1520)2	0.628411	±	0.006982
ArL(1600)1	1.296140	±	0.053137
AiL(1600)1	0.132163	±	0.093750
ArL(1600)2	0.632727	±	0.066554
AiL(1600)2	1.350976	±	0.069730
ArL(1670)1	0.190473	±	0.008756
AiL(1670)1	0.021528	±	0.011617
ArL(1670)2	0.400697	±	0.008906
AiL(1670)2	0.161046	±	0.021879
ArL(1690)1	0.291295	±	0.040390
AiL(1690)1	-0.388090	±	0.022174
ArL(1690)2	-0.938257	±	0.031545
AiL(1690)2	0.542512	±	0.045161
ArL(1710)1	0.357152	±	0.090400
AiL(1710)1	-0.371078	±	0.056438
ArL(1710)2	1.743139	±	0.035253
AiL(1710)2	0.271037	±	0.098988
ArL(1800)1	0.292603	±	0.061650
AiL(1800)1	-0.606320	±	0.063071
ArL(1800)2	-0.373886	±	0.053987
AiL(1800)2	-0.506598	±	0.084789
ArL(1810)1	-0.048685	±	0.065896
AiL(1810)1	1.100274	±	0.045583
ArL(1810)2	-0.306653	±	0.025548
AiL(1810)2	0.147854	±	0.029082
ArL(1820)1	0.123044	±	0.053448
AiL(1820)1	1.111035	±	0.030478
ArL(1820)2	-0.376844	±	0.028880
AiL(1820)2	0.046646	±	0.025528
ArL(1830)1	0.509529	±	0.018909
AiL(1830)1	-0.027131	±	0.028388
ArL(1830)2	-0.246389	±	0.031618
AiL(1830)2	-0.344618	±	0.028402
ArL(1890)1	0.423323	±	0.025068
AiL(1890)1	-0.142343	±	0.035912
ArL(1890)2	0.060902	±	0.039380
AiL(1890)2	-0.543628	±	0.030234
ArL(2000)1	-1.286022	±	0.094530
AiL(2000)1	-2.706846	±	0.071136
ArL(2000)2	-0.497168	±	0.082133
AiL(2000)2	-1.722776	±	0.044888
ArD(1232)1	-1.703753	±	0.039728
AiD(1232)1	-0.107966	±	0.057911
ArD(1232)2	-3.609801	±	0.121966
AiD(1232)2	2.420898	±	0.127779
ArD(1600)1	0.227335	±	0.151383
AiD(1600)1	-2.886671	±	0.055865
ArD(1600)2	0.219561	±	0.095748
AiD(1600)2	-2.092248	±	0.040089
ArD(1620)1	-0.067057	±	0.061005
AiD(1620)1	1.130522	±	0.026129
ArD(1620)2	-0.663445	±	0.028550
AiD(1620)2	-0.701796	±	0.034628
ArD(1700)1	1.541805	±	0.100779
AiD(1700)1	-1.799147	±	0.057577
ArD(1700)2	1.079063	±	0.075558
AiD(1700)2	-1.404451	±	0.064662

Table 7: Alternative amplitude model with $K_0^*(1430)$ with free mass and width.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.607721	±	0.047400
ArK0(700)1	-1.834822	±	0.111752
AiK0(700)1	-1.195628	±	0.140871
ArK0(700)2	-3.831635	±	0.153288
AiK0(700)2	2.147556	±	0.177137
ArK(892)2	1.927519	±	0.035889
AiK(892)2	0.604725	±	0.065888
ArK(892)3	-1.061586	±	0.033617
AiK(892)3	0.055305	±	0.046567
ArK(892)4	-0.102705	±	0.065778
AiK(892)4	-1.236568	±	0.033778
MK0(1430)	1.471591	±	0.004904
GK0(1430)	0.180003	±	0.010693
gammaK0(1430)	-0.187911	±	0.013437
ArK0(1430)1	-3.607355	±	0.329325
AiK0(1430)1	4.308786	±	0.173627
ArK0(1430)2	0.772633	±	0.092388
AiK0(1430)2	1.726626	±	0.105289
ArK2(1430)1	-1.128717	±	0.058074
AiK2(1430)1	-0.245579	±	0.090049
ArK2(1430)2	-0.603684	±	0.113676
AiK2(1430)2	2.202186	±	0.069696
ArK2(1430)3	1.323853	±	0.071269
AiK2(1430)3	0.508476	±	0.106476
ArK2(1430)4	0.863375	±	0.044013
AiK2(1430)4	-0.264808	±	0.074667
ArL(1405)1	-0.893228	±	0.097036
AiL(1405)1	0.647945	±	0.047581
ArL(1405)2	2.373368	±	0.089633
AiL(1405)2	0.762154	±	0.164607
ArL(1520)1	-0.147648	±	0.012965
AiL(1520)1	-0.209472	±	0.013329
ArL(1520)2	-0.145969	±	0.032381
AiL(1520)2	0.629830	±	0.015450
ArL(1600)1	1.218477	±	0.073184
AiL(1600)1	0.166831	±	0.091866
ArL(1600)2	0.651586	±	0.078505
AiL(1600)2	1.369494	±	0.084393
ArL(1670)1	0.196249	±	0.012570
AiL(1670)1	0.022124	±	0.012989
ArL(1670)2	0.400317	±	0.012148
AiL(1670)2	0.173734	±	0.023288
ArL(1690)1	0.311605	±	0.045124
AiL(1690)1	-0.352921	±	0.027925
ArL(1690)2	-0.940365	±	0.038229
AiL(1690)2	0.556819	±	0.044638
ArL(1710)1	0.396901	±	0.093082
AiL(1710)1	-0.303056	±	0.085763
ArL(1710)2	1.728753	±	0.068404
AiL(1710)2	0.202249	±	0.108154
ArL(1800)1	0.369258	±	0.073678
AiL(1800)1	-0.649701	±	0.065936
ArL(1800)2	-0.243221	±	0.075758
AiL(1800)2	-0.623615	±	0.085556
ArL(1810)1	-0.043646	±	0.066067
AiL(1810)1	1.090756	±	0.067575
ArL(1810)2	-0.316295	±	0.040440
AiL(1810)2	0.175506	±	0.036657
ArL(1820)1	0.088410	±	0.060180
AiL(1820)1	1.141666	±	0.035914
ArL(1820)2	-0.349049	±	0.036122
AiL(1820)2	0.021011	±	0.030411
ArL(1830)1	0.559224	±	0.039373
AiL(1830)1	-0.002557	±	0.034101
ArL(1830)2	-0.234257	±	0.037597
AiL(1830)2	-0.346413	±	0.039186
ArL(1890)1	0.428150	±	0.037387
AiL(1890)1	-0.143888	±	0.047435
ArL(1890)2	0.022187	±	0.043457
AiL(1890)2	-0.603219	±	0.043681
ArL(2000)1	-1.196814	±	0.101715
AiL(2000)1	-2.785058	±	0.108088
ArL(2000)2	-0.478794	±	0.090878
AiL(2000)2	-1.834902	±	0.070840
ArD(1232)1	-1.749007	±	0.066254
AiD(1232)1	-0.029927	±	0.068013
ArD(1232)2	-3.654755	±	0.141303
AiD(1232)2	2.324973	±	0.137063
ArD(1600)1	0.206622	±	0.155079
AiD(1600)1	-2.894196	±	0.102126
ArD(1600)2	0.169205	±	0.103675
AiD(1600)2	-2.165323	±	0.107736
ArD(1620)1	-0.093512	±	0.059547
AiD(1620)1	1.113240	±	0.033387
ArD(1620)2	-0.580401	±	0.040147
AiD(1620)2	-0.691031	±	0.038976
ArD(1700)1	1.632350	±	0.124299
AiD(1700)1	-1.711333	±	0.095352
ArD(1700)2	0.992678	±	0.094859
AiD(1700)2	-1.431751	±	0.092397

Table 8: Alternative amplitude model in which Relativistic Breit–Wigner lineshapes are used for $K_0^*(700)$ and $K_0^*(1430)$ contributions.

Parameter	Central value		Uncertainty
ArK0(700)1	-1.268403	±	0.098596
AiK0(700)1	-1.421831	±	0.089033
ArK0(700)2	-3.471331	±	0.155941
AiK0(700)2	1.654798	±	0.144360
ArK(892)2	2.124163	±	0.032281
AiK(892)2	0.414615	±	0.070768
ArK(892)3	-1.101046	±	0.038495
AiK(892)3	0.176867	±	0.049345
ArK(892)4	-0.149558	±	0.075549
AiK(892)4	-1.367483	±	0.036012
ArK0(1430)1	-2.749316	±	0.270063
AiK0(1430)1	5.199852	±	0.098317
ArK0(1430)2	0.923401	±	0.087932
AiK0(1430)2	2.028272	±	0.096370
ArK2(1430)1	-1.795087	±	0.091604
AiK2(1430)1	0.231030	±	0.082400
ArK2(1430)2	-0.741401	±	0.118844
AiK2(1430)2	2.704703	±	0.059472
ArK2(1430)3	1.281053	±	0.067614
AiK2(1430)3	1.239266	±	0.094614
ArK2(1430)4	0.973577	±	0.048727
AiK2(1430)4	-0.264784	±	0.059541
ArL(1405)1	-0.445142	±	0.071872
AiL(1405)1	0.527821	±	0.061408
ArL(1405)2	2.435106	±	0.099738
AiL(1405)2	1.748308	±	0.159844
ArL(1520)1	-0.100161	±	0.012616
AiL(1520)1	-0.182517	±	0.012190
ArL(1520)2	-0.200241	±	0.036815
AiL(1520)2	0.681147	±	0.013142
ArL(1600)1	1.743670	±	0.081338
AiL(1600)1	0.299235	±	0.112418
ArL(1600)2	1.199855	±	0.091156
AiL(1600)2	1.558485	±	0.115153
ArL(1670)1	0.230642	±	0.008408
AiL(1670)1	0.076713	±	0.015705
ArL(1670)2	0.402890	±	0.009346
AiL(1670)2	0.190487	±	0.024982
ArL(1690)1	0.345641	±	0.045768
AiL(1690)1	-0.389228	±	0.038984
ArL(1690)2	-1.088800	±	0.045705
AiL(1690)2	0.530769	±	0.052447
ArL(1710)1	1.216066	±	0.119539
AiL(1710)1	-0.463973	±	0.084359
ArL(1710)2	2.252193	±	0.099004
AiL(1710)2	-0.126616	±	0.126637
ArL(1800)1	0.845857	±	0.075654
AiL(1800)1	-0.615804	±	0.088365
ArL(1800)2	-0.230712	±	0.063951
AiL(1800)2	-0.198434	±	0.060658
ArL(1810)1	-0.317126	±	0.072397
AiL(1810)1	0.793003	±	0.062440
ArL(1810)2	-0.473927	±	0.038888
AiL(1810)2	0.067628	±	0.056605
ArL(1820)1	0.008092	±	0.069553
AiL(1820)1	1.249015	±	0.031259
ArL(1820)2	-0.474800	±	0.021760
AiL(1820)2	0.235557	±	0.027037
ArL(1830)1	0.440082	±	0.048654
AiL(1830)1	-0.054663	±	0.042927
ArL(1830)2	-0.301284	±	0.048546
AiL(1830)2	-0.230205	±	0.038961
ArL(1890)1	0.320110	±	0.032447
AiL(1890)1	-0.004556	±	0.043518
ArL(1890)2	0.089487	±	0.034241
AiL(1890)2	-0.333604	±	0.030458
ArL(2000)1	-1.446651	±	0.123208
AiL(2000)1	-2.912613	±	0.103866
ArL(2000)2	-0.230955	±	0.084682
AiL(2000)2	-1.667582	±	0.066506
ArD(1232)1	-1.628091	±	0.038168
AiD(1232)1	-0.147892	±	0.072779
ArD(1232)2	-3.834558	±	0.176273
AiD(1232)2	3.065471	±	0.144937
ArD(1600)1	0.405111	±	0.180400
AiD(1600)1	-3.535772	±	0.112874
ArD(1600)2	0.171178	±	0.083992
AiD(1600)2	-1.918500	±	0.078334
ArD(1620)1	-0.043754	±	0.074320
AiD(1620)1	1.503384	±	0.043010
ArD(1620)2	-0.735551	±	0.033241
AiD(1620)2	-0.755133	±	0.044728
ArD(1700)1	1.210820	±	0.161313
AiD(1700)1	-2.519032	±	0.085450
ArD(1700)2	1.324899	±	0.085817
AiD(1700)2	-1.505279	±	0.076119

Table 9: Alternative amplitude model with $K_0^*(700)$ and $K_0^*(1430)$ contributions with free mass and width.

Parameter	Central value		Uncertainty
MK0(700)	0.830796	±	0.001905
GK0(700)	0.492482	±	0.003315
gammaK0(700)	-0.317952	±	0.066556
ArK0(700)1	-1.734859	±	0.127694
AiK0(700)1	-1.069921	±	0.134127
ArK0(700)2	-3.536162	±	0.153181
AiK0(700)2	2.126440	±	0.187620
ArK(892)2	1.942791	±	0.026194
AiK(892)2	0.585492	±	0.066935
ArK(892)3	-1.063280	±	0.029657
AiK(892)3	0.054158	±	0.045936
ArK(892)4	-0.102811	±	0.066709
AiK(892)4	-1.242103	±	0.027713
MK0(1430)	1.468483	±	0.004943
GK0(1430)	0.204572	±	0.004397
gammaK0(1430)	-0.196120	±	0.014182
ArK0(1430)1	-3.750734	±	0.353506
AiK0(1430)1	4.435524	±	0.172385
ArK0(1430)2	0.783876	±	0.105534
AiK0(1430)2	1.844394	±	0.119470
ArK2(1430)1	-1.176153	±	0.065578
AiK2(1430)1	-0.224671	±	0.088671
ArK2(1430)2	-0.601884	±	0.113738
AiK2(1430)2	2.211755	±	0.059374
ArK2(1430)3	1.298986	±	0.068482
AiK2(1430)3	0.530591	±	0.108358
ArK2(1430)4	0.871347	±	0.041517
AiK2(1430)4	-0.268977	±	0.075837
ArL(1405)1	-0.834067	±	0.109523
AiL(1405)1	0.591407	±	0.056344
ArL(1405)2	2.408535	±	0.089024
AiL(1405)2	0.746101	±	0.164528
ArL(1520)1	-0.145378	±	0.015442
AiL(1520)1	-0.208801	±	0.015429
ArL(1520)2	-0.145631	±	0.032924
AiL(1520)2	0.633380	±	0.012981
ArL(1600)1	1.244751	±	0.063863
AiL(1600)1	0.177846	±	0.095595
ArL(1600)2	0.724535	±	0.086017
AiL(1600)2	1.381799	±	0.085646
ArL(1670)1	0.200675	±	0.012205
AiL(1670)1	0.024593	±	0.013784
ArL(1670)2	0.401434	±	0.012153
AiL(1670)2	0.175382	±	0.023663
ArL(1690)1	0.310860	±	0.043141
AiL(1690)1	-0.355090	±	0.028377
ArL(1690)2	-0.950733	±	0.037067
AiL(1690)2	0.569386	±	0.043394
ArL(1710)1	0.467144	±	0.104200
AiL(1710)1	-0.305011	±	0.086991
ArL(1710)2	1.775639	±	0.061584
AiL(1710)2	0.113466	±	0.122007
ArL(1800)1	0.436372	±	0.084544
AiL(1800)1	-0.653394	±	0.074065
ArL(1800)2	-0.196934	±	0.073107
AiL(1800)2	-0.634020	±	0.075690
ArL(1810)1	-0.049933	±	0.070578
AiL(1810)1	1.060183	±	0.068423
ArL(1810)2	-0.328771	±	0.036383
AiL(1810)2	0.176589	±	0.042111
ArL(1820)1	0.081014	±	0.062777
AiL(1820)1	1.149403	±	0.037901
ArL(1820)2	-0.346019	±	0.031565
AiL(1820)2	0.034931	±	0.028912
ArL(1830)1	0.550971	±	0.044337
AiL(1830)1	-0.010748	±	0.039487
ArL(1830)2	-0.244078	±	0.040305
AiL(1830)2	-0.342528	±	0.037141
ArL(1890)1	0.413844	±	0.038627
AiL(1890)1	-0.141071	±	0.044495
ArL(1890)2	0.015380	±	0.041853
AiL(1890)2	-0.595008	±	0.043192
ArL(2000)1	-1.193373	±	0.108275
AiL(2000)1	-2.808546	±	0.100065
ArL(2000)2	-0.468141	±	0.088439
AiL(2000)2	-1.859592	±	0.061419
ArD(1232)1	-1.748973	±	0.066690
AiD(1232)1	-0.057358	±	0.070933
ArD(1232)2	-3.652866	±	0.136902
AiD(1232)2	2.357021	±	0.132249
ArD(1600)1	0.187037	±	0.160095
AiD(1600)1	-2.918648	±	0.092053
ArD(1600)2	0.160426	±	0.103800
AiD(1600)2	-2.155136	±	0.101236
ArD(1620)1	-0.076472	±	0.059369
AiD(1620)1	1.149272	±	0.034990
ArD(1620)2	-0.573071	±	0.041182
AiD(1620)2	-0.698745	±	0.039361
ArD(1700)1	1.632037	±	0.124518
AiD(1700)1	-1.764299	±	0.084885
ArD(1700)2	0.965034	±	0.096605
AiD(1700)2	-1.440308	±	0.083077

Table 10: Alternative amplitude model in which a Relativistic Breit–Wigner is used for the $K_0^*(700)$ contribution with free mass and width.

Parameter	Central value		Uncertainty
MK0(700)	0.831836	±	0.000363
GK0(700)	0.489361	±	0.000530
ArK0(700)1	-1.353055	±	0.080315
AiK0(700)1	-0.914993	±	0.054518
ArK0(700)2	-3.419221	±	0.105864
AiK0(700)2	2.116663	±	0.098131
ArK(892)2	2.108045	±	0.039462
AiK(892)2	0.427018	±	0.025557
ArK(892)3	-1.082550	±	0.023779
AiK(892)3	0.230216	±	0.027238
ArK(892)4	-0.239534	±	0.027349
AiK(892)4	-1.339411	±	0.032605
gammaK0(1430)	0.058377	±	0.006806
ArK0(1430)1	-2.167981	±	0.076304
AiK0(1430)1	4.238308	±	0.122074
ArK0(1430)2	0.857219	±	0.061116
AiK0(1430)2	1.726582	±	0.048748
ArK2(1430)1	-1.873263	±	0.097794
AiK2(1430)1	0.480585	±	0.037026
ArK2(1430)2	-0.633642	±	0.046868
AiK2(1430)2	2.819182	±	0.067887
ArK2(1430)3	1.403189	±	0.025519
AiK2(1430)3	1.186366	±	0.073793
ArK2(1430)4	0.913047	±	0.023886
AiK2(1430)4	-0.363824	±	0.033681
ArL(1405)1	-0.300000	±	0.051385
AiL(1405)1	0.410499	±	0.056392
ArL(1405)2	2.788429	±	0.080038
AiL(1405)2	1.441806	±	0.086792
ArL(1520)1	-0.109800	±	0.009754
AiL(1520)1	-0.171500	±	0.009474
ArL(1520)2	-0.115071	±	0.016931
AiL(1520)2	0.699222	±	0.013939
ArL(1600)1	1.804560	±	0.074744
AiL(1600)1	0.043013	±	0.053455
ArL(1600)2	1.186356	±	0.073138
AiL(1600)2	1.453632	±	0.055871
ArL(1670)1	0.241643	±	0.007403
AiL(1670)1	0.057136	±	0.010089
ArL(1670)2	0.418383	±	0.009138
AiL(1670)2	0.154944	±	0.009649
ArL(1690)1	0.272683	±	0.021985
AiL(1690)1	-0.423788	±	0.031188
ArL(1690)2	-1.014437	±	0.032725
AiL(1690)2	0.562688	±	0.030309
ArL(1710)1	0.952418	±	0.078232
AiL(1710)1	-0.683135	±	0.046875
ArL(1710)2	2.169549	±	0.071809
AiL(1710)2	-0.076403	±	0.091158
ArL(1800)1	0.790533	±	0.058747
AiL(1800)1	-0.476848	±	0.070864
ArL(1800)2	-0.312624	±	0.046976
AiL(1800)2	-0.046952	±	0.042094
ArL(1810)1	-0.221891	±	0.052899
AiL(1810)1	0.943284	±	0.039239
ArL(1810)2	-0.477491	±	0.034772
AiL(1810)2	0.059076	±	0.039746
ArL(1820)1	0.122149	±	0.022076
AiL(1820)1	1.229406	±	0.026525
ArL(1820)2	-0.534262	±	0.022244
AiL(1820)2	0.268823	±	0.019557
ArL(1830)1	0.380125	±	0.028174
AiL(1830)1	-0.069565	±	0.030310
ArL(1830)2	-0.398684	±	0.036673
AiL(1830)2	-0.287234	±	0.027079
ArL(1890)1	0.242204	±	0.030679
AiL(1890)1	-0.062205	±	0.035757
ArL(1890)2	0.084637	±	0.031517
AiL(1890)2	-0.347116	±	0.026515
ArL(2000)1	-1.410057	±	0.074118
AiL(2000)1	-2.857571	±	0.071364
ArL(2000)2	-0.263273	±	0.058346
AiL(2000)2	-1.607304	±	0.055674
ArD(1232)1	-1.614046	±	0.036409
AiD(1232)1	-0.107857	±	0.041509
ArD(1232)2	-3.685062	±	0.062500
AiD(1232)2	3.061122	±	0.089356
ArD(1600)1	0.238500	±	0.046785
AiD(1600)1	-3.629843	±	0.102241
ArD(1600)2	0.275553	±	0.036374
AiD(1600)2	-1.972511	±	0.082149
ArD(1620)1	0.103787	±	0.024531
AiD(1620)1	1.509680	±	0.041792
ArD(1620)2	-0.814984	±	0.029015
AiD(1620)2	-0.728592	±	0.025329
ArD(1700)1	1.057008	±	0.073551
AiD(1700)1	-2.516505	±	0.076185
ArD(1700)2	1.467146	±	0.052134
AiD(1700)2	-1.280385	±	0.057710

Table 11: Alternative amplitude model in which Relativistic Breit–Wigner lineshapes are used for $K_0^*(700)$ and $K_0^*(1430)$ contributions with free mass and width.

Parameter	Central value		Uncertainty
MK0(700)	0.827253	±	0.000781
GK0(700)	0.476541	±	0.001350
ArK0(700)1	-1.258961	±	0.105831
AiK0(700)1	-1.529238	±	0.085200
ArK0(700)2	-3.543002	±	0.099012
AiK0(700)2	1.528458	±	0.148609
ArK(892)2	2.069070	±	0.025831
AiK(892)2	0.488192	±	0.063661
ArK(892)3	-1.080481	±	0.025440
AiK(892)3	0.036566	±	0.050678
ArK(892)4	-0.042372	±	0.071795
AiK(892)4	-1.307956	±	0.019947
MK0(1430)	1.471174	±	0.003483
GK0(1430)	0.263852	±	0.004544
ArK0(1430)1	-4.711567	±	0.314135
AiK0(1430)1	4.897190	±	0.205781
ArK0(1430)2	0.048613	±	0.163695
AiK0(1430)2	2.484746	±	0.072269
ArK2(1430)1	-1.452428	±	0.078628
AiK2(1430)1	-0.258069	±	0.085540
ArK2(1430)2	-0.712173	±	0.100049
AiK2(1430)2	2.257011	±	0.051288
ArK2(1430)3	1.103573	±	0.062653
AiK2(1430)3	0.778101	±	0.066987
ArK2(1430)4	0.925064	±	0.051817
AiK2(1430)4	-0.253640	±	0.050534
ArL(1405)1	-0.501250	±	0.071923
AiL(1405)1	0.333042	±	0.078625
ArL(1405)2	2.584947	±	0.075259
AiL(1405)2	0.913791	±	0.149926
ArL(1520)1	-0.121493	±	0.011684
AiL(1520)1	-0.210372	±	0.010318
ArL(1520)2	-0.197690	±	0.031943
AiL(1520)2	0.653101	±	0.010075
ArL(1600)1	1.403504	±	0.046910
AiL(1600)1	0.323836	±	0.084493
ArL(1600)2	1.058689	±	0.082074
AiL(1600)2	1.590751	±	0.083611
ArL(1670)1	0.222782	±	0.010431
AiL(1670)1	0.057271	±	0.013315
ArL(1670)2	0.394693	±	0.010489
AiL(1670)2	0.214882	±	0.022663
ArL(1690)1	0.364292	±	0.038473
AiL(1690)1	-0.341579	±	0.031999
ArL(1690)2	-1.092011	±	0.037741
AiL(1690)2	0.574925	±	0.047765
ArL(1710)1	0.964211	±	0.084048
AiL(1710)1	-0.206119	±	0.071813
ArL(1710)2	2.165293	±	0.067350
AiL(1710)2	-0.215580	±	0.126489
ArL(1800)1	0.852739	±	0.062351
AiL(1800)1	-0.669295	±	0.088667
ArL(1800)2	0.118405	±	0.082058
AiL(1800)2	-0.676598	±	0.095015
ArL(1810)1	-0.170185	±	0.061093
AiL(1810)1	0.836331	±	0.052094
ArL(1810)2	-0.400535	±	0.040041
AiL(1810)2	0.168294	±	0.052257
ArL(1820)1	-0.055727	±	0.061673
AiL(1820)1	1.250317	±	0.026734
ArL(1820)2	-0.322029	±	0.036005
AiL(1820)2	0.142679	±	0.025452
ArL(1830)1	0.530216	±	0.027701
AiL(1830)1	-0.020067	±	0.046808
ArL(1830)2	-0.237168	±	0.026348
AiL(1830)2	-0.247414	±	0.042102
ArL(1890)1	0.353264	±	0.027265
AiL(1890)1	-0.068447	±	0.044962
ArL(1890)2	0.001893	±	0.037454
AiL(1890)2	-0.549730	±	0.022746
ArL(2000)1	-1.165841	±	0.126342
AiL(2000)1	-3.004596	±	0.069239
ArL(2000)2	-0.311467	±	0.101155
AiL(2000)2	-1.994121	±	0.060580
ArD(1232)1	-1.779411	±	0.032758
AiD(1232)1	-0.193949	±	0.072908
ArD(1232)2	-3.868338	±	0.127423
AiD(1232)2	2.524083	±	0.155950
ArD(1600)1	0.258444	±	0.145737
AiD(1600)1	-3.202632	±	0.069310
ArD(1600)2	0.054976	±	0.092404
AiD(1600)2	-2.087409	±	0.061755
ArD(1620)1	-0.083983	±	0.064166
AiD(1620)1	1.364744	±	0.025784
ArD(1620)2	-0.502143	±	0.037242
AiD(1620)2	-0.711371	±	0.031371
ArD(1700)1	1.768574	±	0.124443
AiD(1700)1	-2.117145	±	0.088368
ArD(1700)2	0.829708	±	0.090121
AiD(1700)2	-1.640464	±	0.081670

Table 12: Alternative amplitude model in which Relativistic Breit–Wigner lineshapes are used for $K_0^*(700)$ and $K_0^*(1430)$ contributions with $\Lambda(1800)$ resonance removed.

Parameter	Central value		Uncertainty
ArK0(700)1	-1.335289	±	0.078064
AiK0(700)1	-1.268212	±	0.086536
ArK0(700)2	-3.286507	±	0.155113
AiK0(700)2	1.608453	±	0.122227
ArK(892)2	2.110059	±	0.032036
AiK(892)2	0.396456	±	0.069322
ArK(892)3	-1.102640	±	0.040987
AiK(892)3	0.203471	±	0.044084
ArK(892)4	-0.158159	±	0.067937
AiK(892)4	-1.368142	±	0.038283
ArK0(1430)1	-2.337845	±	0.227229
AiK0(1430)1	5.118160	±	0.073117
ArK0(1430)2	0.730051	±	0.100926
AiK0(1430)2	2.030289	±	0.109227
ArK2(1430)1	-2.022633	±	0.121914
AiK2(1430)1	0.297659	±	0.081737
ArK2(1430)2	-0.793981	±	0.131434
AiK2(1430)2	2.850852	±	0.065336
ArK2(1430)3	1.355959	±	0.041645
AiK2(1430)3	1.285563	±	0.097770
ArK2(1430)4	0.855738	±	0.058356
AiK2(1430)4	-0.556503	±	0.054017
ArL(1405)1	-0.872389	±	0.076157
AiL(1405)1	0.161986	±	0.089936
ArL(1405)2	2.517966	±	0.093020
AiL(1405)2	1.939639	±	0.161015
ArL(1520)1	-0.108332	±	0.012404
AiL(1520)1	-0.173489	±	0.011658
ArL(1520)2	-0.178546	±	0.030361
AiL(1520)2	0.684922	±	0.012496
ArL(1600)1	1.817545	±	0.074441
AiL(1600)1	0.139748	±	0.103651
ArL(1600)2	0.995042	±	0.087842
AiL(1600)2	1.441607	±	0.096985
ArL(1670)1	0.209547	±	0.007852
AiL(1670)1	-0.002930	±	0.012407
ArL(1670)2	0.432287	±	0.005607
AiL(1670)2	0.174763	±	0.023294
ArL(1690)1	0.257020	±	0.049945
AiL(1690)1	-0.428081	±	0.037810
ArL(1690)2	-0.994363	±	0.041214
AiL(1690)2	0.566196	±	0.046459
ArL(1710)1	0.776532	±	0.113310
AiL(1710)1	-0.651093	±	0.073568
ArL(1710)2	2.217572	±	0.092773
AiL(1710)2	0.001387	±	0.130891
ArL(1810)1	-0.006717	±	0.070797
AiL(1810)1	0.993409	±	0.055363
ArL(1810)2	-0.465997	±	0.039076
AiL(1810)2	0.096284	±	0.056686
ArL(1820)1	0.037408	±	0.058041
AiL(1820)1	1.242902	±	0.028428
ArL(1820)2	-0.493402	±	0.026166
AiL(1820)2	0.220989	±	0.034059
ArL(1830)1	0.450152	±	0.032118
AiL(1830)1	0.013229	±	0.032343
ArL(1830)2	-0.388803	±	0.041558
AiL(1830)2	-0.160538	±	0.048496
ArL(1890)1	0.348145	±	0.045434
AiL(1890)1	-0.057325	±	0.033203
ArL(1890)2	0.151832	±	0.041814
AiL(1890)2	-0.403799	±	0.025794
ArL(2000)1	-1.011886	±	0.099408
AiL(2000)1	-2.608393	±	0.082574
ArL(2000)2	-0.232642	±	0.085688
AiL(2000)2	-1.855823	±	0.061354
ArD(1232)1	-1.684561	±	0.047960
AiD(1232)1	-0.161426	±	0.070714
ArD(1232)2	-3.742973	±	0.179686
AiD(1232)2	3.058361	±	0.117482
ArD(1600)1	0.092975	±	0.150533
AiD(1600)1	-3.482054	±	0.115247
ArD(1600)2	0.034187	±	0.092868
AiD(1600)2	-2.125619	±	0.080537
ArD(1620)1	0.085123	±	0.058257
AiD(1620)1	1.443552	±	0.042091
ArD(1620)2	-0.654619	±	0.030040
AiD(1620)2	-0.711506	±	0.040744
ArD(1700)1	1.075213	±	0.145686
AiD(1700)1	-2.417667	±	0.066770
ArD(1700)2	1.346221	±	0.084259
AiD(1700)2	-1.305600	±	0.071202

Table 13: Alternative amplitude model in which Relativistic Breit–Wigner lineshapes are used for $K_0^*(700)$ and $K_0^*(1430)$ contributions with $\Lambda(1890)$ resonance removed.

Parameter	Central value		Uncertainty
ArK0(700)1	-1.391837	±	0.103820
AiK0(700)1	-1.447544	±	0.098690
ArK0(700)2	-3.420550	±	0.159080
AiK0(700)2	1.875795	±	0.117942
ArK(892)2	2.115939	±	0.036854
AiK(892)2	0.410467	±	0.067711
ArK(892)3	-1.079242	±	0.042827
AiK(892)3	0.261414	±	0.040659
ArK(892)4	-0.177888	±	0.069228
AiK(892)4	-1.396314	±	0.043673
ArK0(1430)1	-2.712260	±	0.249909
AiK0(1430)1	5.245146	±	0.091772
ArK0(1430)2	0.924489	±	0.066660
AiK0(1430)2	2.047830	±	0.097434
ArK2(1430)1	-1.873170	±	0.087095
AiK2(1430)1	0.298743	±	0.079565
ArK2(1430)2	-0.733382	±	0.124887
AiK2(1430)2	2.839153	±	0.065850
ArK2(1430)3	1.364544	±	0.044473
AiK2(1430)3	1.256085	±	0.101763
ArK2(1430)4	0.940778	±	0.055991
AiK2(1430)4	-0.272227	±	0.051072
ArL(1405)1	-0.461860	±	0.095370
AiL(1405)1	0.433906	±	0.067062
ArL(1405)2	2.450142	±	0.110122
AiL(1405)2	1.648739	±	0.172260
ArL(1520)1	-0.086135	±	0.014457
AiL(1520)1	-0.194171	±	0.012886
ArL(1520)2	-0.199571	±	0.033585
AiL(1520)2	0.672765	±	0.013591
ArL(1600)1	1.758503	±	0.066566
AiL(1600)1	0.216948	±	0.114408
ArL(1600)2	1.323957	±	0.093184
AiL(1600)2	1.439953	±	0.116782
ArL(1670)1	0.232291	±	0.008902
AiL(1670)1	0.065253	±	0.014395
ArL(1670)2	0.406074	±	0.008017
AiL(1670)2	0.183150	±	0.023206
ArL(1690)1	0.318945	±	0.052088
AiL(1690)1	-0.470009	±	0.032099
ArL(1690)2	-1.120463	±	0.044099
AiL(1690)2	0.555454	±	0.048543
ArL(1710)1	1.177077	±	0.126502
AiL(1710)1	-0.601564	±	0.059446
ArL(1710)2	2.192727	±	0.107503
AiL(1710)2	-0.332467	±	0.135935
ArL(1800)1	0.893563	±	0.067710
AiL(1800)1	-0.626755	±	0.057690
ArL(1800)2	-0.329405	±	0.086659
AiL(1800)2	-0.312442	±	0.043268
ArL(1810)1	-0.370364	±	0.073785
AiL(1810)1	0.808330	±	0.053077
ArL(1810)2	-0.529054	±	0.048936
AiL(1810)2	0.186593	±	0.056424
ArL(1820)1	0.065602	±	0.056061
AiL(1820)1	1.264288	±	0.029356
ArL(1820)2	-0.521229	±	0.026429
AiL(1820)2	0.209317	±	0.033208
ArL(1830)1	0.398336	±	0.044172
AiL(1830)1	-0.119534	±	0.039125
ArL(1830)2	-0.426750	±	0.038125
AiL(1830)2	-0.135505	±	0.040218
ArL(2000)1	-1.620956	±	0.098485
AiL(2000)1	-2.919137	±	0.119865
ArL(2000)2	-0.239681	±	0.068517
AiL(2000)2	-1.594423	±	0.072389
ArD(1232)1	-1.603429	±	0.046495
AiD(1232)1	-0.139562	±	0.052429
ArD(1232)2	-3.792155	±	0.187340
AiD(1232)2	3.111254	±	0.119140
ArD(1600)1	0.314536	±	0.143581
AiD(1600)1	-3.631741	±	0.120196
ArD(1600)2	0.347753	±	0.094712
AiD(1600)2	-1.798442	±	0.084986
ArD(1620)1	0.068845	±	0.056389
AiD(1620)1	1.514647	±	0.042495
ArD(1620)2	-0.733333	±	0.028348
AiD(1620)2	-0.724133	±	0.048033
ArD(1700)1	1.180621	±	0.149532
AiD(1700)1	-2.562681	±	0.074887
ArD(1700)2	1.287305	±	0.086245
AiD(1700)2	-1.470214	±	0.071097

Table 14: Alternative amplitude model with $m_{K_0^*(1430)} = 1370\,\mathrm{MeV}$, $\Gamma_{K_0^*(1430)} = 180\,\mathrm{MeV}$.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.975430	±	0.039547
ArK0(700)1	-2.562302	±	0.135555
AiK0(700)1	0.410876	±	0.165228
ArK0(700)2	-4.209321	±	0.180187
AiK0(700)2	3.651803	±	0.137910
ArK(892)2	1.985515	±	0.039677
AiK(892)2	0.530068	±	0.059073
ArK(892)3	-1.037005	±	0.041170
AiK(892)3	0.364581	±	0.040008
ArK(892)4	-0.392559	±	0.059880
AiK(892)4	-1.205797	±	0.043779
gammaK0(1430)	-0.129368	±	0.012308
ArK0(1430)1	0.435674	±	0.142520
AiK0(1430)1	2.951269	±	0.108534
ArK0(1430)2	1.119174	±	0.051677
AiK0(1430)2	0.358670	±	0.080235
ArK2(1430)1	-2.480134	±	0.102577
AiK2(1430)1	0.370110	±	0.097861
ArK2(1430)2	-0.792648	±	0.140572
AiK2(1430)2	3.327963	±	0.081941
ArK2(1430)3	1.910599	±	0.080047
AiK2(1430)3	0.838225	±	0.142681
ArK2(1430)4	0.606662	±	0.082572
AiK2(1430)4	-0.771679	±	0.063652
ArL(1405)1	-0.714751	±	0.105077
AiL(1405)1	0.378082	±	0.069079
ArL(1405)2	2.817558	±	0.095252
AiL(1405)2	1.179044	±	0.176545
ArL(1520)1	-0.132753	±	0.013382
AiL(1520)1	-0.171172	±	0.011131
ArL(1520)2	0.033500	±	0.035284
AiL(1520)2	0.655079	±	0.016770
ArL(1600)1	1.536888	±	0.076594
AiL(1600)1	-0.668879	±	0.104274
ArL(1600)2	0.520030	±	0.052618
AiL(1600)2	1.078689	±	0.068973
ArL(1670)1	0.190730	±	0.013656
AiL(1670)1	-0.047592	±	0.013897
ArL(1670)2	0.428942	±	0.011187
AiL(1670)2	0.054374	±	0.025425
ArL(1690)1	0.136309	±	0.041305
AiL(1690)1	-0.477975	±	0.022270
ArL(1690)2	-0.883423	±	0.043262
AiL(1690)2	0.709851	±	0.046954
ArL(1710)1	-0.243680	±	0.095175
AiL(1710)1	-0.668798	±	0.070182
ArL(1710)2	1.866050	±	0.059394
AiL(1710)2	0.401185	±	0.082169
ArL(1800)1	0.100269	±	0.067820
AiL(1800)1	-0.002329	±	0.065341
ArL(1800)2	-0.834609	±	0.053902
AiL(1800)2	0.338599	±	0.081188
ArL(1810)1	0.219433	±	0.079745
AiL(1810)1	1.206490	±	0.045473
ArL(1810)2	-0.356613	±	0.031690
AiL(1810)2	0.112151	±	0.024952
ArL(1820)1	0.488633	±	0.058588
AiL(1820)1	0.932049	±	0.034306
ArL(1820)2	-0.508641	±	0.025064
AiL(1820)2	0.092247	±	0.023541
ArL(1830)1	0.263998	±	0.032868
AiL(1830)1	-0.007657	±	0.027514
ArL(1830)2	-0.576546	±	0.038585
AiL(1830)2	-0.374200	±	0.031889
ArL(1890)1	0.433418	±	0.017501
AiL(1890)1	-0.084552	±	0.047738
ArL(1890)2	0.222559	±	0.030844
AiL(1890)2	-0.264438	±	0.044678
ArL(2000)1	-1.397323	±	0.076104
AiL(2000)1	-2.553301	±	0.102510
ArL(2000)2	-0.415995	±	0.062954
AiL(2000)2	-1.344082	±	0.068372
ArD(1232)1	-1.667488	±	0.053715
AiD(1232)1	-0.285051	±	0.071846
ArD(1232)2	-3.234796	±	0.149805
AiD(1232)2	2.896525	±	0.114468
ArD(1600)1	-0.176067	±	0.162352
AiD(1600)1	-2.837255	±	0.105520
ArD(1600)2	0.351756	±	0.097947
AiD(1600)2	-2.118863	±	0.066372
ArD(1620)1	0.338965	±	0.068542
AiD(1620)1	1.240445	±	0.047760
ArD(1620)2	-1.036390	±	0.035739
AiD(1620)2	-0.481238	±	0.046287
ArD(1700)1	0.922913	±	0.084968
AiD(1700)1	-1.808396	±	0.054509
ArD(1700)2	1.310274	±	0.071198
AiD(1700)2	-0.981746	±	0.082412

Table 15: Alternative amplitude model with $m_{K_0^*(1430)} = 1370\,\mathrm{MeV}$, $\Gamma_{K_0^*(1430)} = 360\,\mathrm{MeV}$.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.948171	±	0.037049
ArK0(700)1	-2.653971	±	0.106633
AiK0(700)1	0.238558	±	0.169487
ArK0(700)2	-4.203915	±	0.199109
AiK0(700)2	3.673784	±	0.141350
ArK(892)2	1.976175	±	0.040921
AiK(892)2	0.527365	±	0.058241
ArK(892)3	-1.057021	±	0.039686
AiK(892)3	0.311669	±	0.043931
ArK(892)4	-0.333642	±	0.063828
AiK(892)4	-1.220923	±	0.042820
gammaK0(1430)	0.205864	±	0.009075
ArK0(1430)1	0.440577	±	0.157552
AiK0(1430)1	3.414278	±	0.117732
ArK0(1430)2	1.277782	±	0.055679
AiK0(1430)2	0.353906	±	0.086507
ArK2(1430)1	-2.292979	±	0.097018
AiK2(1430)1	0.338776	±	0.098032
ArK2(1430)2	-0.835619	±	0.142415
AiK2(1430)2	3.152782	±	0.086224
ArK2(1430)3	1.815246	±	0.082474
AiK2(1430)3	0.912268	±	0.125785
ArK2(1430)4	0.728231	±	0.056584
AiK2(1430)4	-0.639726	±	0.067271
ArL(1405)1	-0.778910	±	0.079018
AiL(1405)1	0.485295	±	0.063701
ArL(1405)2	2.597086	±	0.094053
AiL(1405)2	1.366108	±	0.175709
ArL(1520)1	-0.131762	±	0.016315
AiL(1520)1	-0.174479	±	0.013953
ArL(1520)2	-0.018345	±	0.036189
AiL(1520)2	0.654671	±	0.015176
ArL(1600)1	1.556199	±	0.081839
AiL(1600)1	-0.480075	±	0.105810
ArL(1600)2	0.583787	±	0.045710
AiL(1600)2	1.130627	±	0.081143
ArL(1670)1	0.191201	±	0.009648
AiL(1670)1	-0.025719	±	0.014294
ArL(1670)2	0.423141	±	0.010700
AiL(1670)2	0.077465	±	0.024932
ArL(1690)1	0.164204	±	0.043345
AiL(1690)1	-0.480371	±	0.024099
ArL(1690)2	-0.904762	±	0.044101
AiL(1690)2	0.655182	±	0.047840
ArL(1710)1	-0.073761	±	0.098732
AiL(1710)1	-0.658631	±	0.075634
ArL(1710)2	1.847265	±	0.082375
AiL(1710)2	0.373332	±	0.066827
ArL(1800)1	0.120836	±	0.042170
AiL(1800)1	-0.148207	±	0.060172
ArL(1800)2	-0.795206	±	0.037003
AiL(1800)2	0.180680	±	0.082726
ArL(1810)1	0.128754	±	0.071410
AiL(1810)1	1.177112	±	0.051294
ArL(1810)2	-0.346102	±	0.035174
AiL(1810)2	0.104696	±	0.031990
ArL(1820)1	0.401264	±	0.055337
AiL(1820)1	0.971089	±	0.026361
ArL(1820)2	-0.500349	±	0.032390
AiL(1820)2	0.103033	±	0.029357
ArL(1830)1	0.294631	±	0.029758
AiL(1830)1	-0.027958	±	0.023135
ArL(1830)2	-0.501693	±	0.031316
AiL(1830)2	-0.355745	±	0.026057
ArL(1890)1	0.421202	±	0.029536
AiL(1890)1	-0.090321	±	0.043216
ArL(1890)2	0.212201	±	0.028351
AiL(1890)2	-0.284118	±	0.036618
ArL(2000)1	-1.435307	±	0.077346
AiL(2000)1	-2.543191	±	0.092855
ArL(2000)2	-0.428563	±	0.078793
AiL(2000)2	-1.378286	±	0.058777
ArD(1232)1	-1.630211	±	0.054779
AiD(1232)1	-0.306317	±	0.075972
ArD(1232)2	-3.301781	±	0.151960
AiD(1232)2	2.860978	±	0.115976
ArD(1600)1	-0.034936	±	0.157376
AiD(1600)1	-2.896285	±	0.098645
ArD(1600)2	0.356134	±	0.092820
AiD(1600)2	-2.039241	±	0.091326
ArD(1620)1	0.242721	±	0.069165
AiD(1620)1	1.257144	±	0.040087
ArD(1620)2	-0.985921	±	0.034045
AiD(1620)2	-0.550890	±	0.044568
ArD(1700)1	0.966303	±	0.092217
AiD(1700)1	-1.902037	±	0.063612
ArD(1700)2	1.292608	±	0.066246
AiD(1700)2	-1.083907	±	0.072682

Table 16: Alternative amplitude model with $m_{K_0^*(1430)} = 1430\,\mathrm{MeV}$, $\Gamma_{K_0^*(1430)} = 180\,\mathrm{MeV}$.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.545583	±	0.047578
ArK0(700)1	-1.752519	±	0.123868
AiK0(700)1	-1.309110	±	0.107010
ArK0(700)2	-3.748506	±	0.122890
AiK0(700)2	2.000008	±	0.174451
ArK(892)2	1.935394	±	0.017479
AiK(892)2	0.590443	±	0.060873
ArK(892)3	-1.060500	±	0.025347
AiK(892)3	0.046980	±	0.043652
ArK(892)4	-0.097347	±	0.062912
AiK(892)4	-1.235757	±	0.021889
gammaK0(1430)	-0.203112	±	0.012787
ArK0(1430)1	-3.985703	±	0.253185
AiK0(1430)1	4.411088	±	0.201574
ArK0(1430)2	0.662593	±	0.099101
AiK0(1430)2	1.833445	±	0.071600
ArK2(1430)1	-1.165530	±	0.076344
AiK2(1430)1	-0.308999	±	0.070522
ArK2(1430)2	-0.617807	±	0.087429
AiK2(1430)2	2.201498	±	0.049110
ArK2(1430)3	1.306117	±	0.037589
AiK2(1430)3	0.496162	±	0.095120
ArK2(1430)4	0.863271	±	0.043814
AiK2(1430)4	-0.278734	±	0.079007
ArL(1405)1	-0.896594	±	0.083298
AiL(1405)1	0.590080	±	0.067833
ArL(1405)2	2.365478	±	0.063487
AiL(1405)2	0.739558	±	0.151778
ArL(1520)1	-0.147246	±	0.011993
AiL(1520)1	-0.211498	±	0.010635
ArL(1520)2	-0.152100	±	0.028356
AiL(1520)2	0.627275	±	0.008837
ArL(1600)1	1.202918	±	0.041656
AiL(1600)1	0.180114	±	0.095499
ArL(1600)2	0.671455	±	0.079169
AiL(1600)2	1.364142	±	0.081022
ArL(1670)1	0.195384	±	0.010571
AiL(1670)1	0.021668	±	0.014967
ArL(1670)2	0.399197	±	0.010330
AiL(1670)2	0.176849	±	0.022935
ArL(1690)1	0.317323	±	0.041759
AiL(1690)1	-0.347549	±	0.030144
ArL(1690)2	-0.957850	±	0.031125
AiL(1690)2	0.570730	±	0.041473
ArL(1710)1	0.425871	±	0.102143
AiL(1710)1	-0.264378	±	0.047365
ArL(1710)2	1.740759	±	0.069327
AiL(1710)2	0.145939	±	0.089349
ArL(1800)1	0.379586	±	0.094407
AiL(1800)1	-0.669358	±	0.064922
ArL(1800)2	-0.192618	±	0.057847
AiL(1800)2	-0.661857	±	0.061055
ArL(1810)1	-0.039109	±	0.070099
AiL(1810)1	1.065450	±	0.054908
ArL(1810)2	-0.318329	±	0.037555
AiL(1810)2	0.200327	±	0.033820
ArL(1820)1	0.082826	±	0.059350
AiL(1820)1	1.149348	±	0.022826
ArL(1820)2	-0.328448	±	0.020656
AiL(1820)2	0.020469	±	0.020966
ArL(1830)1	0.562599	±	0.032680
AiL(1830)1	-0.001874	±	0.033803
ArL(1830)2	-0.224812	±	0.026173
AiL(1830)2	-0.331398	±	0.026631
ArL(1890)1	0.445773	±	0.041756
AiL(1890)1	-0.122913	±	0.051038
ArL(1890)2	0.022134	±	0.030787
AiL(1890)2	-0.605882	±	0.036233
ArL(2000)1	-1.197870	±	0.103566
AiL(2000)1	-2.789120	±	0.083888
ArL(2000)2	-0.480149	±	0.083596
AiL(2000)2	-1.876086	±	0.061654
ArD(1232)1	-1.768305	±	0.048901
AiD(1232)1	-0.043631	±	0.058853
ArD(1232)2	-3.656415	±	0.127990
AiD(1232)2	2.335108	±	0.124826
ArD(1600)1	0.175994	±	0.143361
AiD(1600)1	-2.856620	±	0.068984
ArD(1600)2	0.136976	±	0.089326
AiD(1600)2	-2.157026	±	0.079942
ArD(1620)1	-0.095599	±	0.059823
AiD(1620)1	1.116082	±	0.025491
ArD(1620)2	-0.560438	±	0.028110
AiD(1620)2	-0.686027	±	0.029102
ArD(1700)1	1.642837	±	0.099189
AiD(1700)1	-1.698668	±	0.078904
ArD(1700)2	0.919461	±	0.070805
AiD(1700)2	-1.497126	±	0.065046

Table 17: Alternative amplitude model with $m_{K_0^*(1430)} = 1430\,\mathrm{MeV}$, $\Gamma_{K_0^*(1430)} = 360\,\mathrm{MeV}$.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.479904	±	0.046760
ArK0(700)1	-1.696104	±	0.118445
AiK0(700)1	-1.416732	±	0.102837
ArK0(700)2	-3.655588	±	0.118550
AiK0(700)2	1.828306	±	0.165892
ArK(892)2	1.949078	±	0.032895
AiK(892)2	0.560344	±	0.063810
ArK(892)3	-1.054316	±	0.031437
AiK(892)3	0.032143	±	0.046787
ArK(892)4	-0.090961	±	0.065129
AiK(892)4	-1.230885	±	0.032588
gammaK0(1430)	0.123397	±	0.010546
ArK0(1430)1	-4.045842	±	0.267422
AiK0(1430)1	4.657863	±	0.215276
ArK0(1430)2	0.549149	±	0.088290
AiK0(1430)2	1.826559	±	0.078854
ArK2(1430)1	-1.253646	±	0.061738
AiK2(1430)1	-0.421537	±	0.076539
ArK2(1430)2	-0.633780	±	0.093226
AiK2(1430)2	2.213477	±	0.062571
ArK2(1430)3	1.268185	±	0.061002
AiK2(1430)3	0.482306	±	0.087220
ArK2(1430)4	0.868272	±	0.048860
AiK2(1430)4	-0.313922	±	0.068613
ArL(1405)1	-0.878072	±	0.106489
AiL(1405)1	0.470569	±	0.047915
ArL(1405)2	2.392695	±	0.071917
AiL(1405)2	0.682503	±	0.164857
ArL(1520)1	-0.146100	±	0.012164
AiL(1520)1	-0.213814	±	0.014324
ArL(1520)2	-0.159005	±	0.029192
AiL(1520)2	0.622798	±	0.012532
ArL(1600)1	1.178877	±	0.087419
AiL(1600)1	0.172336	±	0.087746
ArL(1600)2	0.712052	±	0.082606
AiL(1600)2	1.338253	±	0.075651
ArL(1670)1	0.194529	±	0.010941
AiL(1670)1	0.020543	±	0.013509
ArL(1670)2	0.396901	±	0.010432
AiL(1670)2	0.181479	±	0.022897
ArL(1690)1	0.323428	±	0.038046
AiL(1690)1	-0.337031	±	0.031934
ArL(1690)2	-0.985061	±	0.037486
AiL(1690)2	0.601184	±	0.046747
ArL(1710)1	0.445312	±	0.073112
AiL(1710)1	-0.215109	±	0.097911
ArL(1710)2	1.754129	±	0.052634
AiL(1710)2	0.037907	±	0.111421
ArL(1800)1	0.413438	±	0.081100
AiL(1800)1	-0.688935	±	0.049591
ArL(1800)2	-0.105355	±	0.071945
AiL(1800)2	-0.718552	±	0.064492
ArL(1810)1	-0.037087	±	0.066410
AiL(1810)1	1.028915	±	0.052055
ArL(1810)2	-0.315264	±	0.030089
AiL(1810)2	0.246218	±	0.034044
ArL(1820)1	0.070806	±	0.055176
AiL(1820)1	1.159490	±	0.032747
ArL(1820)2	-0.285057	±	0.026359
AiL(1820)2	0.023757	±	0.025991
ArL(1830)1	0.576087	±	0.024889
AiL(1830)1	-0.002209	±	0.031849
ArL(1830)2	-0.209451	±	0.031422
AiL(1830)2	-0.309439	±	0.035346
ArL(1890)1	0.470136	±	0.033938
AiL(1890)1	-0.095898	±	0.045963
ArL(1890)2	0.015318	±	0.043856
AiL(1890)2	-0.618365	±	0.033288
ArL(2000)1	-1.188185	±	0.097776
AiL(2000)1	-2.792455	±	0.093232
ArL(2000)2	-0.478320	±	0.085704
AiL(2000)2	-1.928098	±	0.061402
ArD(1232)1	-1.799110	±	0.045822
AiD(1232)1	-0.073434	±	0.061717
ArD(1232)2	-3.647636	±	0.138304
AiD(1232)2	2.360229	±	0.137741
ArD(1600)1	0.092777	±	0.137270
AiD(1600)1	-2.790824	±	0.088264
ArD(1600)2	0.048761	±	0.093727
AiD(1600)2	-2.156461	±	0.060698
ArD(1620)1	-0.088575	±	0.056669
AiD(1620)1	1.123358	±	0.034747
ArD(1620)2	-0.521552	±	0.037380
AiD(1620)2	-0.666980	±	0.033778
ArD(1700)1	1.665760	±	0.099804
AiD(1700)1	-1.654515	±	0.077921
ArD(1700)2	0.773125	±	0.087204
AiD(1700)2	-1.584427	±	0.061214

Table 18: Alternative amplitude model with $m_{K_0^*(700)} = 828\,\text{MeV}$, $\Gamma_{K_0^*(700)} = 438\,\text{MeV}$, $m_{K_0^*(1430)} = 1430\,\text{MeV}$, $\Gamma_{K_0^*(1430)} = 180\,\text{MeV}$.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.503777	±	0.044489
ArK0(700)1	-1.690677	±	0.103843
AiK0(700)1	-1.105152	±	0.098204
ArK0(700)2	-3.383257	±	0.115520
AiK0(700)2	2.062104	±	0.155079
ArK(892)2	1.931516	±	0.017787
AiK(892)2	0.587802	±	0.060126
ArK(892)3	-1.057388	±	0.023609
AiK(892)3	0.044532	±	0.042986
ArK(892)4	-0.101107	±	0.060421
AiK(892)4	-1.230849	±	0.021068
gammaK0(1430)	-0.203456	±	0.012323
ArK0(1430)1	-3.932354	±	0.247536
AiK0(1430)1	4.421419	±	0.201664
ArK0(1430)2	0.682902	±	0.098171
AiK0(1430)2	1.829131	±	0.062290
ArK2(1430)1	-1.161361	±	0.068423
AiK2(1430)1	-0.309766	±	0.071240
ArK2(1430)2	-0.604073	±	0.083756
AiK2(1430)2	2.198752	±	0.050192
ArK2(1430)3	1.306521	±	0.034662
AiK2(1430)3	0.481042	±	0.093542
ArK2(1430)4	0.854161	±	0.042973
AiK2(1430)4	-0.286788	±	0.078908
ArL(1405)1	-0.903158	±	0.075101
AiL(1405)1	0.589973	±	0.066982
ArL(1405)2	2.358220	±	0.063237
AiL(1405)2	0.724466	±	0.149985
ArL(1520)1	-0.148490	±	0.011518
AiL(1520)1	-0.210579	±	0.010622
ArL(1520)2	-0.148080	±	0.027638
AiL(1520)2	0.626328	±	0.009285
ArL(1600)1	1.200898	±	0.044272
AiL(1600)1	0.169651	±	0.094849
ArL(1600)2	0.667448	±	0.074991
AiL(1600)2	1.359613	±	0.080475
ArL(1670)1	0.194041	±	0.008319
AiL(1670)1	0.019721	±	0.014505
ArL(1670)2	0.399588	±	0.010442
AiL(1670)2	0.173842	±	0.022635
ArL(1690)1	0.308499	±	0.039230
AiL(1690)1	-0.349053	±	0.029918
ArL(1690)2	-0.951322	±	0.030519
AiL(1690)2	0.575223	±	0.041415
ArL(1710)1	0.399600	±	0.099524
AiL(1710)1	-0.270417	±	0.047581
ArL(1710)2	1.733593	±	0.069834
AiL(1710)2	0.146934	±	0.088055
ArL(1800)1	0.361494	±	0.087360
AiL(1800)1	-0.658826	±	0.063357
ArL(1800)2	-0.202100	±	0.058262
AiL(1800)2	-0.664396	±	0.062568
ArL(1810)1	-0.027343	±	0.068598
AiL(1810)1	1.073553	±	0.052630
ArL(1810)2	-0.310652	±	0.036087
AiL(1810)2	0.203834	±	0.032389
ArL(1820)1	0.092457	±	0.057195
AiL(1820)1	1.143891	±	0.022592
ArL(1820)2	-0.327339	±	0.017608
AiL(1820)2	0.021394	±	0.020596
ArL(1830)1	0.562956	±	0.032491
AiL(1830)1	-0.006145	±	0.034175
ArL(1830)2	-0.229576	±	0.026119
AiL(1830)2	-0.334063	±	0.026156
ArL(1890)1	0.441571	±	0.041079
AiL(1890)1	-0.129829	±	0.047619
ArL(1890)2	0.016355	±	0.026597
AiL(1890)2	-0.611547	±	0.035481
ArL(2000)1	-1.199437	±	0.101076
AiL(2000)1	-2.767639	±	0.080958
ArL(2000)2	-0.490363	±	0.081759
AiL(2000)2	-1.868049	±	0.061319
ArD(1232)1	-1.767728	±	0.049619
AiD(1232)1	-0.034714	±	0.053718
ArD(1232)2	-3.640573	±	0.122171
AiD(1232)2	2.328134	±	0.122805
ArD(1600)1	0.145450	±	0.138607
AiD(1600)1	-2.837909	±	0.066365
ArD(1600)2	0.127277	±	0.087541
AiD(1600)2	-2.164457	±	0.081263
ArD(1620)1	-0.087542	±	0.058032
AiD(1620)1	1.109856	±	0.023897
ArD(1620)2	-0.558353	±	0.027852
AiD(1620)2	-0.685108	±	0.028178
ArD(1700)1	1.633150	±	0.096221
AiD(1700)1	-1.685494	±	0.077034
ArD(1700)2	0.897854	±	0.068959
AiD(1700)2	-1.482540	±	0.060254

Table 19: Alternative amplitude model with $m_{K_0^*(700)} = 828\,\text{MeV}$, $\Gamma_{K_0^*(700)} = 498\,\text{MeV}$, $m_{K_0^*(1430)} = 1430\,\text{MeV}$, $\Gamma_{K_0^*(1430)} = 180\,\text{MeV}$.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.267358	±	0.058820
ArK0(700)1	-1.674521	±	0.119977
AiK0(700)1	-1.154186	±	0.107749
ArK0(700)2	-3.476301	±	0.120718
AiK0(700)2	2.023724	±	0.158198
ArK(892)2	1.950846	±	0.015744
AiK(892)2	0.574643	±	0.061929
ArK(892)3	-1.063600	±	0.025756
AiK(892)3	0.048751	±	0.043553
ArK(892)4	-0.098517	±	0.063912
AiK(892)4	-1.243133	±	0.022955
gammaK0(1430)	-0.206793	±	0.012061
ArK0(1430)1	-4.052207	±	0.270334
AiK0(1430)1	4.511029	±	0.190482
ArK0(1430)2	0.697734	±	0.095920
AiK0(1430)2	1.936888	±	0.075747
ArK2(1430)1	-1.205458	±	0.062169
AiK2(1430)1	-0.267634	±	0.072330
ArK2(1430)2	-0.612924	±	0.086469
AiK2(1430)2	2.214539	±	0.045826
ArK2(1430)3	1.287396	±	0.038856
AiK2(1430)3	0.528635	±	0.099152
ArK2(1430)4	0.874013	±	0.047819
AiK2(1430)4	-0.277364	±	0.075941
ArL(1405)1	-0.831116	±	0.083617
AiL(1405)1	0.553822	±	0.064641
ArL(1405)2	2.404091	±	0.057524
AiL(1405)2	0.739925	±	0.152625
ArL(1520)1	-0.144886	±	0.012431
AiL(1520)1	-0.210024	±	0.011130
ArL(1520)2	-0.150694	±	0.028696
AiL(1520)2	0.632374	±	0.008470
ArL(1600)1	1.237259	±	0.038189
AiL(1600)1	0.188406	±	0.097058
ArL(1600)2	0.741063	±	0.086861
AiL(1600)2	1.384995	±	0.087631
ArL(1670)1	0.200174	±	0.010743
AiL(1670)1	0.024861	±	0.015299
ArL(1670)2	0.400547	±	0.009662
AiL(1670)2	0.178156	±	0.023271
ArL(1690)1	0.315915	±	0.042275
AiL(1690)1	-0.351408	±	0.027999
ArL(1690)2	-0.966336	±	0.033807
AiL(1690)2	0.578969	±	0.040028
ArL(1710)1	0.495976	±	0.113008
AiL(1710)1	-0.276239	±	0.049657
ArL(1710)2	1.793200	±	0.073258
AiL(1710)2	0.072519	±	0.098228
ArL(1800)1	0.448843	±	0.100588
AiL(1800)1	-0.666376	±	0.062577
ArL(1800)2	-0.159890	±	0.060101
AiL(1800)2	-0.660708	±	0.051761
ArL(1810)1	-0.049863	±	0.073233
AiL(1810)1	1.038920	±	0.054030
ArL(1810)2	-0.331625	±	0.039657
AiL(1810)2	0.193531	±	0.036677
ArL(1820)1	0.076399	±	0.059202
AiL(1820)1	1.155788	±	0.024582
ArL(1820)2	-0.333616	±	0.022498
AiL(1820)2	0.035062	±	0.021970
ArL(1830)1	0.555201	±	0.032344
AiL(1830)1	-0.011231	±	0.034690
ArL(1830)2	-0.236803	±	0.025863
AiL(1830)2	-0.330424	±	0.028109
ArL(1890)1	0.425823	±	0.042525
AiL(1890)1	-0.127906	±	0.049119
ArL(1890)2	0.014727	±	0.029675
AiL(1890)2	-0.596566	±	0.036025
ArL(2000)1	-1.197779	±	0.104840
AiL(2000)1	-2.814828	±	0.089149
ArL(2000)2	-0.468150	±	0.083698
AiL(2000)2	-1.888335	±	0.058375
ArD(1232)1	-1.762797	±	0.048487
AiD(1232)1	-0.069003	±	0.057334
ArD(1232)2	-3.657142	±	0.132257
AiD(1232)2	2.372296	±	0.126055
ArD(1600)1	0.166540	±	0.143793
AiD(1600)1	-2.898740	±	0.078894
ArD(1600)2	0.136636	±	0.086780
AiD(1600)2	-2.147302	±	0.081205
ArD(1620)1	-0.078738	±	0.060017
AiD(1620)1	1.154359	±	0.031552
ArD(1620)2	-0.559638	±	0.026116
AiD(1620)2	-0.696134	±	0.030211
ArD(1700)1	1.638787	±	0.101338
AiD(1700)1	-1.763665	±	0.083628
ArD(1700)2	0.912351	±	0.071487
AiD(1700)2	-1.489147	±	0.061562

Table 20: Alternative amplitude model with $m_{K_0^*(700)} = 862\,\text{MeV}$, $\Gamma_{K_0^*(700)} = 438\,\text{MeV}$, $m_{K_0^*(1430)} = 1430\,\text{MeV}$, $\Gamma_{K_0^*(1430)} = 180\,\text{MeV}$.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.802238	±	0.033622
ArK0(700)1	-1.794878	±	0.112379
AiK0(700)1	-1.481714	±	0.103501
ArK0(700)2	-3.994240	±	0.117821
AiK0(700)2	1.954391	±	0.183701
ArK(892)2	1.924524	±	0.019120
AiK(892)2	0.603744	±	0.058616
ArK(892)3	-1.058709	±	0.022969
AiK(892)3	0.044910	±	0.042385
ArK(892)4	-0.095497	±	0.059707
AiK(892)4	-1.230853	±	0.020057
gammaK0(1430)	-0.197937	±	0.012706
ArK0(1430)1	-3.963332	±	0.236082
AiK0(1430)1	4.305052	±	0.206296
ArK0(1430)2	0.624492	±	0.101298
AiK0(1430)2	1.762642	±	0.057859
ArK2(1430)1	-1.122349	±	0.074875
AiK2(1430)1	-0.345928	±	0.070738
ArK2(1430)2	-0.617367	±	0.078270
AiK2(1430)2	2.194233	±	0.053872
ArK2(1430)3	1.325095	±	0.032658
AiK2(1430)3	0.479273	±	0.090730
ArK2(1430)4	0.858621	±	0.039348
AiK2(1430)4	-0.272892	±	0.080684
ArL(1405)1	-0.936197	±	0.064758
AiL(1405)1	0.634075	±	0.067665
ArL(1405)2	2.334087	±	0.069519
AiL(1405)2	0.755391	±	0.151758
ArL(1520)1	-0.148826	±	0.011004
AiL(1520)1	-0.212719	±	0.010277
ArL(1520)2	-0.154613	±	0.027547
AiL(1520)2	0.623982	±	0.008719
ArL(1600)1	1.177996	±	0.048008
AiL(1600)1	0.176702	±	0.091323
ArL(1600)2	0.610923	±	0.064893
AiL(1600)2	1.360071	±	0.075319
ArL(1670)1	0.192042	±	0.008607
AiL(1670)1	0.020756	±	0.014197
ArL(1670)2	0.396938	±	0.010438
AiL(1670)2	0.177232	±	0.022429
ArL(1690)1	0.318094	±	0.038906
AiL(1690)1	-0.342144	±	0.030172
ArL(1690)2	-0.955755	±	0.028896
AiL(1690)2	0.559663	±	0.042141
ArL(1710)1	0.379193	±	0.088874
AiL(1710)1	-0.252071	±	0.046507
ArL(1710)2	1.710193	±	0.064162
AiL(1710)2	0.220476	±	0.076861
ArL(1800)1	0.330124	±	0.080833
AiL(1800)1	-0.666784	±	0.063648
ArL(1800)2	-0.221373	±	0.059623
AiL(1800)2	-0.661696	±	0.066435
ArL(1810)1	-0.036630	±	0.066814
AiL(1810)1	1.083333	±	0.047415
ArL(1810)2	-0.306561	±	0.034199
AiL(1810)2	0.201194	±	0.030320
ArL(1820)1	0.087699	±	0.056362
AiL(1820)1	1.145784	±	0.021557
ArL(1820)2	-0.329194	±	0.019143
AiL(1820)2	0.007598	±	0.021501
ArL(1830)1	0.573205	±	0.032256
AiL(1830)1	0.006766	±	0.033024
ArL(1830)2	-0.213406	±	0.026345
AiL(1830)2	-0.330271	±	0.023948
ArL(1890)1	0.459887	±	0.040713
AiL(1890)1	-0.121599	±	0.047898
ArL(1890)2	0.024592	±	0.025863
AiL(1890)2	-0.613936	±	0.035144
ArL(2000)1	-1.200257	±	0.100791
AiL(2000)1	-2.770111	±	0.080500
ArL(2000)2	-0.485273	±	0.080353
AiL(2000)2	-1.858386	±	0.062027
ArD(1232)1	-1.773475	±	0.046600
AiD(1232)1	-0.018366	±	0.057110
ArD(1232)2	-3.661546	±	0.118141
AiD(1232)2	2.313242	±	0.121367
ArD(1600)1	0.187647	±	0.139594
AiD(1600)1	-2.835422	±	0.062058
ArD(1600)2	0.134698	±	0.091108
AiD(1600)2	-2.161242	±	0.074623
ArD(1620)1	-0.113110	±	0.057915
AiD(1620)1	1.087335	±	0.020251
ArD(1620)2	-0.559822	±	0.027383
AiD(1620)2	-0.679241	±	0.027972
ArD(1700)1	1.642541	±	0.093844
AiD(1700)1	-1.656397	±	0.075636
ArD(1700)2	0.923869	±	0.068885
AiD(1700)2	-1.506620	±	0.063498

Table 21: Alternative amplitude model with $m_{K_0^*(700)} = 862\,\text{MeV}$, $\Gamma_{K_0^*(700)} = 498\,\text{MeV}$, $m_{K_0^*(1430)} = 1430\,\text{MeV}$, $\Gamma_{K_0^*(1430)} = 180\,\text{MeV}$.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.584558	±	0.047530
ArK0(700)1	-1.804398	±	0.137035
AiK0(700)1	-1.516152	±	0.115121
ArK0(700)2	-4.110740	±	0.122559
AiK0(700)2	1.928252	±	0.193405
ArK(892)2	1.938726	±	0.015932
AiK(892)2	0.592217	±	0.059742
ArK(892)3	-1.062695	±	0.024092
AiK(892)3	0.049891	±	0.042502
ArK(892)4	-0.095000	±	0.061654
AiK(892)4	-1.239878	±	0.021380
gammaK0(1430)	-0.202578	±	0.012412
ArK0(1430)1	-4.033047	±	0.256215
AiK0(1430)1	4.399732	±	0.200563
ArK0(1430)2	0.643274	±	0.099242
AiK0(1430)2	1.834310	±	0.065868
ArK2(1430)1	-1.166497	±	0.063779
AiK2(1430)1	-0.307917	±	0.067840
ArK2(1430)2	-0.629169	±	0.085943
AiK2(1430)2	2.204578	±	0.045182
ArK2(1430)3	1.306527	±	0.036097
AiK2(1430)3	0.509381	±	0.095120
ArK2(1430)4	0.871864	±	0.042199
AiK2(1430)4	-0.271295	±	0.078373
ArL(1405)1	-0.889113	±	0.078760
AiL(1405)1	0.589595	±	0.066961
ArL(1405)2	2.371686	±	0.062661
AiL(1405)2	0.753472	±	0.152805
ArL(1520)1	-0.146268	±	0.011996
AiL(1520)1	-0.212251	±	0.010540
ArL(1520)2	-0.155508	±	0.028383
AiL(1520)2	0.628090	±	0.008284
ArL(1600)1	1.205382	±	0.038270
AiL(1600)1	0.189226	±	0.095396
ArL(1600)2	0.676344	±	0.078023
AiL(1600)2	1.368349	±	0.081054
ArL(1670)1	0.196951	±	0.010133
AiL(1670)1	0.023535	±	0.015198
ArL(1670)2	0.398794	±	0.010177
AiL(1670)2	0.179454	±	0.022981
ArL(1690)1	0.324827	±	0.042450
AiL(1690)1	-0.345770	±	0.029373
ArL(1690)2	-0.963674	±	0.031482
AiL(1690)2	0.566516	±	0.041200
ArL(1710)1	0.449842	±	0.103567
AiL(1710)1	-0.258712	±	0.046846
ArL(1710)2	1.747014	±	0.068571
AiL(1710)2	0.144346	±	0.085734
ArL(1800)1	0.397526	±	0.092939
AiL(1800)1	-0.679828	±	0.064353
ArL(1800)2	-0.184391	±	0.057374
AiL(1800)2	-0.659291	±	0.059516
ArL(1810)1	-0.049361	±	0.070657
AiL(1810)1	1.057044	±	0.050999
ArL(1810)2	-0.324465	±	0.037707
AiL(1810)2	0.197386	±	0.033584
ArL(1820)1	0.074944	±	0.059310
AiL(1820)1	1.154337	±	0.023025
ArL(1820)2	-0.329939	±	0.019891
AiL(1820)2	0.019932	±	0.020984
ArL(1830)1	0.562239	±	0.032266
AiL(1830)1	0.001786	±	0.033468
ArL(1830)2	-0.220468	±	0.026005
AiL(1830)2	-0.329496	±	0.025707
ArL(1890)1	0.449078	±	0.042291
AiL(1890)1	-0.117457	±	0.050764
ArL(1890)2	0.026505	±	0.029718
AiL(1890)2	-0.600378	±	0.036409
ArL(2000)1	-1.198137	±	0.102590
AiL(2000)1	-2.809245	±	0.084462
ArL(2000)2	-0.471627	±	0.082591
AiL(2000)2	-1.882394	±	0.060252
ArD(1232)1	-1.768745	±	0.047612
AiD(1232)1	-0.050550	±	0.059369
ArD(1232)2	-3.669206	±	0.124911
AiD(1232)2	2.342909	±	0.119377
ArD(1600)1	0.202477	±	0.141321
AiD(1600)1	-2.872538	±	0.068918
ArD(1600)2	0.145903	±	0.090206
AiD(1600)2	-2.149835	±	0.078474
ArD(1620)1	-0.102029	±	0.058462
AiD(1620)1	1.121351	±	0.025720
ArD(1620)2	-0.561717	±	0.026475
AiD(1620)2	-0.686725	±	0.029749
ArD(1700)1	1.650327	±	0.096767
AiD(1700)1	-1.711106	±	0.078958
ArD(1700)2	0.938670	±	0.071290
AiD(1700)2	-1.511211	±	0.069850

Table 22: Alternative amplitude model with free $\Lambda(1405)$ Flatté widths, indicated as G1 (pK channel) and G2 ($\Sigma\pi$).

Parameter	Central value		Uncertainty
gammaK0(700)	-0.949685	±	0.048263
ArK0(700)1	-2.304035	±	0.098242
AiK0(700)1	-0.603799	±	0.111566
ArK0(700)2	-3.982103	±	0.137498
AiK0(700)2	2.843459	±	0.122689
ArK(892)2	1.886133	±	0.027492
AiK(892)2	0.698000	±	0.047753
ArK(892)3	-1.069864	±	0.018828
AiK(892)3	0.104541	±	0.039150
ArK(892)4	-0.163984	±	0.047824
AiK(892)4	-1.247016	±	0.016518
gammaK0(1430)	0.082305	±	0.010626
ArK0(1430)1	-1.357174	±	0.092074
AiK0(1430)1	3.671131	±	0.098513
ArK0(1430)2	1.187109	±	0.060266
AiK0(1430)2	1.066517	±	0.065814
ArK2(1430)1	-1.174061	±	0.063684
AiK2(1430)1	-0.011823	±	0.050546
ArK2(1430)2	-0.666942	±	0.087152
AiK2(1430)2	2.312681	±	0.032988
ArK2(1430)3	1.476185	±	0.019398
AiK2(1430)3	0.432563	±	0.061693
ArK2(1430)4	0.786587	±	0.019651
AiK2(1430)4	-0.299518	±	0.039913
G1L(1405)	0.101063	±	0.003683
G2L(1405)	0.100811	±	0.001424
ArL(1405)1	-1.573981	±	0.138425
AiL(1405)1	1.176391	±	0.066506
ArL(1405)2	3.443841	±	0.157225
AiL(1405)2	2.501550	±	0.145711
ArL(1520)1	-0.158495	±	0.011349
AiL(1520)1	-0.196068	±	0.006258
ArL(1520)2	-0.078370	±	0.019285
AiL(1520)2	0.630563	±	0.008813
ArL(1600)1	1.194119	±	0.044783
AiL(1600)1	-0.054089	±	0.055335
ArL(1600)2	0.508505	±	0.085368
AiL(1600)2	1.333831	±	0.059977
ArL(1670)1	0.203314	±	0.005947
AiL(1670)1	0.019791	±	0.010318
ArL(1670)2	0.413245	±	0.008156
AiL(1670)2	0.144102	±	0.014320
ArL(1690)1	0.252780	±	0.022887
AiL(1690)1	-0.382005	±	0.024363
ArL(1690)2	-0.887224	±	0.021178
AiL(1690)2	0.525888	±	0.029646
ArL(1710)1	0.116632	±	0.057123
AiL(1710)1	-0.469304	±	0.043000
ArL(1710)2	1.680571	±	0.041934
AiL(1710)2	0.507250	±	0.093664
ArL(1800)1	0.321891	±	0.038869
AiL(1800)1	-0.206407	±	0.060365
ArL(1800)2	-0.308185	±	0.061859
AiL(1800)2	-0.511069	±	0.059517
ArL(1810)1	0.020511	±	0.041607
AiL(1810)1	1.239471	±	0.033283
ArL(1810)2	-0.321090	±	0.020553
AiL(1810)2	0.109773	±	0.033852
ArL(1820)1	0.188795	±	0.038165
AiL(1820)1	1.104657	±	0.017037
ArL(1820)2	-0.402784	±	0.016135
AiL(1820)2	0.040673	±	0.024116
ArL(1830)1	0.518277	±	0.037383
AiL(1830)1	0.014886	±	0.028073
ArL(1830)2	-0.332593	±	0.024339
AiL(1830)2	-0.425966	±	0.019397
ArL(1890)1	0.368115	±	0.026694
AiL(1890)1	-0.209439	±	0.043986
ArL(1890)2	0.028934	±	0.044503
AiL(1890)2	-0.617068	±	0.026599
ArL(2000)1	-0.971642	±	0.097027
AiL(2000)1	-2.662189	±	0.055386
ArL(2000)2	-0.484616	±	0.061896
AiL(2000)2	-1.812153	±	0.041467
ArD(1232)1	-1.779799	±	0.033959
AiD(1232)1	-0.002366	±	0.065451
ArD(1232)2	-3.620974	±	0.072693
AiD(1232)2	2.253098	±	0.128658
ArD(1600)1	0.168294	±	0.097819
AiD(1600)1	-2.826862	±	0.058605
ArD(1600)2	0.531186	±	0.060115
AiD(1600)2	-2.236357	±	0.083349
ArD(1620)1	-0.009034	±	0.041203
AiD(1620)1	1.055209	±	0.023035
ArD(1620)2	-0.753668	±	0.026662
AiD(1620)2	-0.701614	±	0.023597
ArD(1700)1	1.514509	±	0.085809
AiD(1700)1	-1.704535	±	0.074025
ArD(1700)2	1.089911	±	0.044185
AiD(1700)2	-1.072608	±	0.069001

Table 23: Alternative amplitude model with $\Lambda(1600)$ with free mass and width.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.893017	±	0.029796
ArK0(700)1	-2.360921	±	0.096593
AiK0(700)1	-0.442369	±	0.081654
ArK0(700)2	-4.173340	±	0.085633
AiK0(700)2	2.908573	±	0.113493
ArK(892)2	1.917410	±	0.029255
AiK(892)2	0.609554	±	0.029543
ArK(892)3	-1.064037	±	0.020806
AiK(892)3	0.126673	±	0.021876
ArK(892)4	-0.145007	±	0.028719
AiK(892)4	-1.232112	±	0.024853
gammaK0(1430)	0.048344	±	0.006150
ArK0(1430)1	-1.548831	±	0.074442
AiK0(1430)1	4.108751	±	0.094595
ArK0(1430)2	1.308385	±	0.081505
AiK0(1430)2	1.003230	±	0.064630
ArK2(1430)1	-1.312186	±	0.051528
AiK2(1430)1	0.153657	±	0.049829
ArK2(1430)2	-0.680393	±	0.055803
AiK2(1430)2	2.440243	±	0.038933
ArK2(1430)3	1.573010	±	0.050185
AiK2(1430)3	0.562507	±	0.045059
ArK2(1430)4	0.848053	±	0.049754
AiK2(1430)4	-0.346436	±	0.057822
ArL(1405)1	-0.795222	±	0.063608
AiL(1405)1	0.871164	±	0.070895
ArL(1405)2	2.379122	±	0.053061
AiL(1405)2	0.979475	±	0.072268
ArL(1520)1	-0.153959	±	0.008740
AiL(1520)1	-0.199117	±	0.009364
ArL(1520)2	-0.095099	±	0.013598
AiL(1520)2	0.640614	±	0.011833
ML(1600)	1.629561	±	0.002500
GL(1600)	0.249983	±	0.019769
ArL(1600)1	1.670252	±	0.100926
AiL(1600)1	0.390774	±	0.119828
ArL(1600)2	0.470867	±	0.051154
AiL(1600)2	2.209239	±	0.164732
ArL(1670)1	0.200050	±	0.006726
AiL(1670)1	0.015200	±	0.011617
ArL(1670)2	0.408097	±	0.008737
AiL(1670)2	0.138645	±	0.009285
ArL(1690)1	0.235649	±	0.023373
AiL(1690)1	-0.412160	±	0.022140
ArL(1690)2	-0.903148	±	0.026839
AiL(1690)2	0.531231	±	0.014368
ArL(1710)1	0.111966	±	0.121207
AiL(1710)1	-0.658959	±	0.088674
ArL(1710)2	2.098552	±	0.139054
AiL(1710)2	-0.045415	±	0.099541
ArL(1800)1	0.267195	±	0.053664
AiL(1800)1	-0.418172	±	0.053125
ArL(1800)2	-0.558165	±	0.036996
AiL(1800)2	-0.309491	±	0.033324
ArL(1810)1	-0.052131	±	0.049270
AiL(1810)1	1.186193	±	0.038832
ArL(1810)2	-0.429444	±	0.035405
AiL(1810)2	0.036008	±	0.043965
ArL(1820)1	0.184313	±	0.018666
AiL(1820)1	1.084518	±	0.026288
ArL(1820)2	-0.438202	±	0.017631
AiL(1820)2	0.032636	±	0.021576
ArL(1830)1	0.498949	±	0.023625
AiL(1830)1	-0.036609	±	0.027865
ArL(1830)2	-0.302881	±	0.024755
AiL(1830)2	-0.395983	±	0.030730
ArL(1890)1	0.368359	±	0.026001
AiL(1890)1	-0.213136	±	0.022147
ArL(1890)2	0.079125	±	0.024528
AiL(1890)2	-0.526299	±	0.016119
ArL(2000)1	-1.223592	±	0.055630
AiL(2000)1	-2.651914	±	0.056834
ArL(2000)2	-0.491238	±	0.036428
AiL(2000)2	-1.581456	±	0.039856
ArD(1232)1	-1.658533	±	0.040111
AiD(1232)1	-0.104446	±	0.039923
ArD(1232)2	-3.549295	±	0.062785
AiD(1232)2	2.463182	±	0.059187
ArD(1600)1	0.158837	±	0.069484
AiD(1600)1	-2.882244	±	0.084684
ArD(1600)2	0.342177	±	0.041904
AiD(1600)2	-2.118911	±	0.053123
ArD(1620)1	0.025506	±	0.024419
AiD(1620)1	1.120223	±	0.021018
ArD(1620)2	-0.743662	±	0.021287
AiD(1620)2	-0.674788	±	0.025874
ArD(1700)1	1.462785	±	0.051217
AiD(1700)1	-1.810972	±	0.050957
ArD(1700)2	1.261203	±	0.061811
AiD(1700)2	-1.169609	±	0.063935

Table 24: Alternative amplitude model with $\Lambda(1710)$ with free mass and width.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.936330	±	0.063333
ArK0(700)1	-2.435496	±	0.092895
AiK0(700)1	-0.375444	±	0.139185
ArK0(700)2	-4.119589	±	0.138545
AiK0(700)2	3.068920	±	0.141308
ArK(892)2	1.900126	±	0.014582
AiK(892)2	0.619616	±	0.047516
ArK(892)3	-1.052869	±	0.025993
AiK(892)3	0.132525	±	0.026252
ArK(892)4	-0.176378	±	0.043245
AiK(892)4	-1.209736	±	0.026154
gammaK0(1430)	0.058067	±	0.006186
ArK0(1430)1	-1.444550	±	0.167325
AiK0(1430)1	3.981274	±	0.080518
ArK0(1430)2	1.244020	±	0.047435
AiK0(1430)2	1.075643	±	0.068218
ArK2(1430)1	-1.318865	±	0.053901
AiK2(1430)1	0.163503	±	0.060050
ArK2(1430)2	-0.639848	±	0.067534
AiK2(1430)2	2.439673	±	0.037557
ArK2(1430)3	1.529146	±	0.027791
AiK2(1430)3	0.549297	±	0.084828
ArK2(1430)4	0.827962	±	0.049176
AiK2(1430)4	-0.390756	±	0.063292
ArL(1405)1	-0.892601	±	0.052927
AiL(1405)1	0.793749	±	0.069431
ArL(1405)2	2.422692	±	0.038385
AiL(1405)2	0.962296	±	0.136878
ArL(1520)1	-0.153307	±	0.009741
AiL(1520)1	-0.187418	±	0.010261
ArL(1520)2	-0.078884	±	0.027253
AiL(1520)2	0.635645	±	0.009676
ArL(1600)1	1.320495	±	0.084254
AiL(1600)1	-0.084830	±	0.094370
ArL(1600)2	0.316096	±	0.104590
AiL(1600)2	1.280870	±	0.084833
ArL(1670)1	0.195873	±	0.006496
AiL(1670)1	0.004185	±	0.012317
ArL(1670)2	0.410060	±	0.007241
AiL(1670)2	0.128178	±	0.019281
ArL(1690)1	0.214268	±	0.038090
AiL(1690)1	-0.399785	±	0.012548
ArL(1690)2	-0.859204	±	0.037366
AiL(1690)2	0.527263	±	0.030007
ML(1710)	1.725934	±	0.001449
GL(1710)	0.219965	±	0.005502
ArL(1710)1	0.043824	±	0.161237
AiL(1710)1	-0.567546	±	0.141719
ArL(1710)2	2.167359	±	0.106759
AiL(1710)2	0.896910	±	0.159165
ArL(1800)1	0.181521	±	0.078585
AiL(1800)1	-0.382890	±	0.061571
ArL(1800)2	-0.557456	±	0.045284
AiL(1800)2	-0.300409	±	0.055809
ArL(1810)1	0.087513	±	0.087670
AiL(1810)1	1.249034	±	0.072708
ArL(1810)2	-0.391939	±	0.035847
AiL(1810)2	0.025249	±	0.050621
ArL(1820)1	0.197651	±	0.041023
AiL(1820)1	1.072574	±	0.021303
ArL(1820)2	-0.441733	±	0.009683
AiL(1820)2	0.046174	±	0.023592
ArL(1830)1	0.494495	±	0.024132
AiL(1830)1	-0.023688	±	0.021116
ArL(1830)2	-0.316191	±	0.017961
AiL(1830)2	-0.393935	±	0.030938
ArL(1890)1	0.365439	±	0.023103
AiL(1890)1	-0.202296	±	0.026570
ArL(1890)2	0.092710	±	0.012371
AiL(1890)2	-0.539392	±	0.028047
ArL(2000)1	-1.211722	±	0.054125
AiL(2000)1	-2.599960	±	0.077045
ArL(2000)2	-0.493576	±	0.039429
AiL(2000)2	-1.586047	±	0.042779
ArD(1232)1	-1.669673	±	0.042002
AiD(1232)1	-0.070899	±	0.045304
ArD(1232)2	-3.513024	±	0.109226
AiD(1232)2	2.439637	±	0.077068
ArD(1600)1	0.128100	±	0.124921
AiD(1600)1	-2.883368	±	0.074405
ArD(1600)2	0.292013	±	0.073067
AiD(1600)2	-2.130984	±	0.060081
ArD(1620)1	0.026328	±	0.043517
AiD(1620)1	1.108989	±	0.031448
ArD(1620)2	-0.741413	±	0.012125
AiD(1620)2	-0.666256	±	0.036124
ArD(1700)1	1.453883	±	0.074932
AiD(1700)1	-1.800906	±	0.068658
ArD(1700)2	1.233518	±	0.054136
AiD(1700)2	-1.114859	±	0.066279

Table 25: Alternative amplitude model with $\Lambda(1800)$ contribution added with free mass and width.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.762506	±	0.059901
ArK0(700)1	-2.255503	±	0.100147
AiK0(700)1	-0.609472	±	0.088898
ArK0(700)2	-4.118258	±	0.121522
AiK0(700)2	2.768449	±	0.125120
ArK(892)2	1.922159	±	0.023388
AiK(892)2	0.602236	±	0.034489
ArK(892)3	-1.070922	±	0.028367
AiK(892)3	0.131945	±	0.022425
ArK(892)4	-0.156333	±	0.043905
AiK(892)4	-1.232032	±	0.024288
gammaK0(1430)	0.061313	±	0.004964
ArK0(1430)1	-1.653352	±	0.084237
AiK0(1430)1	4.055242	±	0.054599
ArK0(1430)2	1.261078	±	0.043211
AiK0(1430)2	1.058098	±	0.049124
ArK2(1430)1	-1.327464	±	0.072047
AiK2(1430)1	0.188187	±	0.030345
ArK2(1430)2	-0.597134	±	0.088685
AiK2(1430)2	2.433421	±	0.058860
ArK2(1430)3	1.499228	±	0.053623
AiK2(1430)3	0.678344	±	0.057353
ArK2(1430)4	0.915328	±	0.033517
AiK2(1430)4	-0.313447	±	0.054309
ArL(1405)1	-0.830169	±	0.089459
AiL(1405)1	0.845673	±	0.054584
ArL(1405)2	2.466745	±	0.066892
AiL(1405)2	1.097877	±	0.096796
ArL(1520)1	-0.139325	±	0.009065
AiL(1520)1	-0.191568	±	0.009065
ArL(1520)2	-0.107147	±	0.013334
AiL(1520)2	0.647854	±	0.012180
ArL(1600)1	1.397590	±	0.054672
AiL(1600)1	0.026644	±	0.057201
ArL(1600)2	0.626212	±	0.076414
AiL(1600)2	1.354432	±	0.076775
ArL(1670)1	0.194987	±	0.008599
AiL(1670)1	0.023628	±	0.010340
ArL(1670)2	0.403044	±	0.007147
AiL(1670)2	0.147296	±	0.010580
ArL(1690)1	0.260508	±	0.030820
AiL(1690)1	-0.403609	±	0.020145
ArL(1690)2	-0.896394	±	0.026882
AiL(1690)2	0.524889	±	0.014817
ArL(1710)1	0.305764	±	0.095778
AiL(1710)1	-0.494833	±	0.035935
ArL(1710)2	1.760816	±	0.077794
AiL(1710)2	0.366057	±	0.086721
ML(1800)	1.827326	±	0.019047
GL(1800)	0.150029	±	0.002370
ArL(1800)1	0.530557	±	0.161262
AiL(1800)1	-0.196243	±	0.247258
ArL(1800)2	-0.216728	±	0.157036
AiL(1800)2	-0.427863	±	0.116929
ArL(1810)1	-0.048081	±	0.047388
AiL(1810)1	1.140074	±	0.050893
ArL(1810)2	-0.304388	±	0.031504
AiL(1810)2	0.076869	±	0.028359
ArL(1820)1	0.169907	±	0.016822
AiL(1820)1	1.063976	±	0.030921
ArL(1820)2	-0.471707	±	0.034706
AiL(1820)2	0.063831	±	0.032653
ArL(1830)1	0.498290	±	0.021743
AiL(1830)1	-0.042819	±	0.024591
ArL(1830)2	-0.307823	±	0.030623
AiL(1830)2	-0.380349	±	0.021753
ArL(1890)1	0.333998	±	0.019988
AiL(1890)1	-0.187832	±	0.032220
ArL(1890)2	0.044676	±	0.028832
AiL(1890)2	-0.482294	±	0.045689
ArL(2000)1	-1.192671	±	0.123126
AiL(2000)1	-2.928908	±	0.193877
ArL(2000)2	-0.577373	±	0.072600
AiL(2000)2	-1.663035	±	0.066467
ArD(1232)1	-1.613706	±	0.039501
AiD(1232)1	-0.128577	±	0.058641
ArD(1232)2	-3.540662	±	0.074289
AiD(1232)2	2.491682	±	0.064110
ArD(1600)1	0.256630	±	0.056361
AiD(1600)1	-3.082930	±	0.088892
ArD(1600)2	0.296478	±	0.071772
AiD(1600)2	-2.113552	±	0.065926
ArD(1620)1	-0.002763	±	0.033184
AiD(1620)1	1.200425	±	0.038370
ArD(1620)2	-0.743505	±	0.018300
AiD(1620)2	-0.681023	±	0.019815
ArD(1700)1	1.423535	±	0.057252
AiD(1700)1	-1.911199	±	0.085131
ArD(1700)2	1.303074	±	0.043351
AiD(1700)2	-1.157217	±	0.075638

Table 26: Alternative amplitude model with $\Lambda(1830)$ contribution added with free width.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.882705	±	0.061760
ArK0(700)1	-2.314034	±	0.087373
AiK0(700)1	-0.418176	±	0.102370
ArK0(700)2	-4.224054	±	0.095579
AiK0(700)2	2.865613	±	0.133015
ArK(892)2	1.891146	±	0.016814
AiK(892)2	0.656008	±	0.040886
ArK(892)3	-1.068059	±	0.010759
AiK(892)3	0.115408	±	0.023675
ArK(892)4	-0.146368	±	0.026585
AiK(892)4	-1.229415	±	0.014544
gammaK0(1430)	0.067426	±	0.009609
ArK0(1430)1	-1.464957	±	0.055577
AiK0(1430)1	3.885460	±	0.110829
ArK0(1430)2	1.133393	±	0.056105
AiK0(1430)2	1.178543	±	0.043288
ArK2(1430)1	-1.360125	±	0.036563
AiK2(1430)1	0.164445	±	0.029923
ArK2(1430)2	-0.630181	±	0.065226
AiK2(1430)2	2.486085	±	0.037654
ArK2(1430)3	1.486897	±	0.017176
AiK2(1430)3	0.604678	±	0.068604
ArK2(1430)4	0.810528	±	0.030366
AiK2(1430)4	-0.365575	±	0.035526
ArL(1405)1	-0.889165	±	0.039756
AiL(1405)1	0.752403	±	0.031856
ArL(1405)2	2.469177	±	0.062291
AiL(1405)2	0.960476	±	0.075297
ArL(1520)1	-0.149505	±	0.007715
AiL(1520)1	-0.191345	±	0.005427
ArL(1520)2	-0.084873	±	0.011954
AiL(1520)2	0.643117	±	0.006519
ArL(1600)1	1.325993	±	0.047358
AiL(1600)1	-0.093312	±	0.045509
ArL(1600)2	0.525245	±	0.077822
AiL(1600)2	1.320338	±	0.058320
ArL(1670)1	0.196582	±	0.004027
AiL(1670)1	0.009198	±	0.007710
ArL(1670)2	0.410640	±	0.004195
AiL(1670)2	0.135757	±	0.008583
ArL(1690)1	0.232779	±	0.017192
AiL(1690)1	-0.395583	±	0.019807
ArL(1690)2	-0.885127	±	0.022973
AiL(1690)2	0.504922	±	0.019464
ArL(1710)1	0.082010	±	0.086542
AiL(1710)1	-0.486350	±	0.040856
ArL(1710)2	1.702066	±	0.053198
AiL(1710)2	0.535817	±	0.100622
ArL(1800)1	0.245787	±	0.052362
AiL(1800)1	-0.350532	±	0.078301
ArL(1800)2	-0.551694	±	0.026553
AiL(1800)2	-0.323803	±	0.025935
ArL(1810)1	0.035481	±	0.041549
AiL(1810)1	1.198189	±	0.041605
ArL(1810)2	-0.289659	±	0.016865
AiL(1810)2	0.067544	±	0.026459
ArL(1820)1	0.183726	±	0.016912
AiL(1820)1	1.063669	±	0.019412
ArL(1820)2	-0.470103	±	0.012864
AiL(1820)2	0.035480	±	0.023602
GL(1830)	0.120681	±	0.000989
ArL(1830)1	0.729829	±	0.064600
AiL(1830)1	0.043702	±	0.041558
ArL(1830)2	-0.467082	±	0.040574
AiL(1830)2	-0.471329	±	0.029551
ArL(1890)1	0.348502	±	0.013177
AiL(1890)1	-0.212673	±	0.023967
ArL(1890)2	0.078001	±	0.030106
AiL(1890)2	-0.514142	±	0.034626
ArL(2000)1	-1.142627	±	0.095830
AiL(2000)1	-2.712128	±	0.048121
ArL(2000)2	-0.451737	±	0.034644
AiL(2000)2	-1.576145	±	0.032546
ArD(1232)1	-1.681211	±	0.035558
AiD(1232)1	-0.096802	±	0.027436
ArD(1232)2	-3.587898	±	0.055423
AiD(1232)2	2.365695	±	0.093197
ArD(1600)1	0.176641	±	0.052427
AiD(1600)1	-2.925560	±	0.064258
ArD(1600)2	0.376902	±	0.043848
AiD(1600)2	-2.189527	±	0.071999
ArD(1620)1	0.035493	±	0.025697
AiD(1620)1	1.126219	±	0.027626
ArD(1620)2	-0.735553	±	0.014608
AiD(1620)2	-0.712705	±	0.018398
ArD(1700)1	1.439412	±	0.074139
AiD(1700)1	-1.778029	±	0.071139
ArD(1700)2	1.244528	±	0.040619
AiD(1700)2	-0.986190	±	0.087517

Table 27: Alternative amplitude model with $\Lambda(1890)$ with free mass and width.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.841382	±	0.050541
ArK0(700)1	-2.306328	±	0.071909
AiK0(700)1	-0.577354	±	0.115594
ArK0(700)2	-4.123116	±	0.080257
AiK0(700)2	2.969091	±	0.078321
ArK(892)2	1.912799	±	0.016547
AiK(892)2	0.622028	±	0.021545
ArK(892)3	-1.069059	±	0.012367
AiK(892)3	0.139672	±	0.016149
ArK(892)4	-0.165861	±	0.017028
AiK(892)4	-1.234787	±	0.016079
gammaK0(1430)	0.056476	±	0.006200
ArK0(1430)1	-1.599843	±	0.096405
AiK0(1430)1	4.042090	±	0.091304
ArK0(1430)2	1.224829	±	0.040384
AiK0(1430)2	1.114598	±	0.024659
ArK2(1430)1	-1.370021	±	0.044725
AiK2(1430)1	0.167914	±	0.027687
ArK2(1430)2	-0.654273	±	0.059913
AiK2(1430)2	2.461093	±	0.035130
ArK2(1430)3	1.503994	±	0.012657
AiK2(1430)3	0.683634	±	0.066446
ArK2(1430)4	0.875388	±	0.031128
AiK2(1430)4	-0.323172	±	0.041138
ArL(1405)1	-0.891498	±	0.030653
AiL(1405)1	0.758470	±	0.033533
ArL(1405)2	2.413017	±	0.033798
AiL(1405)2	1.067326	±	0.087231
ArL(1520)1	-0.142601	±	0.012027
AiL(1520)1	-0.193661	±	0.006390
ArL(1520)2	-0.102936	±	0.016976
AiL(1520)2	0.641351	±	0.006114
ArL(1600)1	1.354553	±	0.025149
AiL(1600)1	-0.033647	±	0.050257
ArL(1600)2	0.598750	±	0.070534
AiL(1600)2	1.318547	±	0.029051
ArL(1670)1	0.197405	±	0.003585
AiL(1670)1	0.013483	±	0.009272
ArL(1670)2	0.407102	±	0.004504
AiL(1670)2	0.142476	±	0.009346
ArL(1690)1	0.250342	±	0.016042
AiL(1690)1	-0.408185	±	0.019060
ArL(1690)2	-0.896015	±	0.026658
AiL(1690)2	0.521012	±	0.009969
ArL(1710)1	0.198282	±	0.092405
AiL(1710)1	-0.503452	±	0.028825
ArL(1710)2	1.743245	±	0.035740
AiL(1710)2	0.397557	±	0.090746
ArL(1800)1	0.279041	±	0.064089
AiL(1800)1	-0.453466	±	0.035907
ArL(1800)2	-0.476619	±	0.032272
AiL(1800)2	-0.311880	±	0.037006
ArL(1810)1	-0.016960	±	0.044954
AiL(1810)1	1.186777	±	0.035369
ArL(1810)2	-0.330635	±	0.022830
AiL(1810)2	0.098911	±	0.033174
ArL(1820)1	0.171763	±	0.016332
AiL(1820)1	1.079909	±	0.026739
ArL(1820)2	-0.466978	±	0.022322
AiL(1820)2	0.065443	±	0.018452
ArL(1830)1	0.485091	±	0.022384
AiL(1830)1	-0.034338	±	0.016158
ArL(1830)2	-0.306357	±	0.025575
AiL(1830)2	-0.386545	±	0.025061
ML(1890)	1.886430	±	0.004413
GL(1890)	0.096238	±	0.014481
ArL(1890)1	0.283089	±	0.060938
AiL(1890)1	-0.170009	±	0.028380
ArL(1890)2	0.048659	±	0.029819
AiL(1890)2	-0.450515	±	0.066183
ArL(2000)1	-1.261800	±	0.046093
AiL(2000)1	-2.681936	±	0.051239
ArL(2000)2	-0.465535	±	0.026749
AiL(2000)2	-1.630533	±	0.032749
ArD(1232)1	-1.649247	±	0.037545
AiD(1232)1	-0.107335	±	0.029154
ArD(1232)2	-3.563020	±	0.039992
AiD(1232)2	2.445437	±	0.049611
ArD(1600)1	0.214999	±	0.054320
AiD(1600)1	-3.001586	±	0.048792
ArD(1600)2	0.323846	±	0.044348
AiD(1600)2	-2.082927	±	0.056837
ArD(1620)1	0.006353	±	0.017954
AiD(1620)1	1.149117	±	0.027180
ArD(1620)2	-0.757877	±	0.009370
AiD(1620)2	-0.687000	±	0.023581
ArD(1700)1	1.418034	±	0.043907
AiD(1700)1	-1.851551	±	0.072465
ArD(1700)2	1.291589	±	0.030069
AiD(1700)2	-1.148402	±	0.055413

Table 28: Alternative amplitude model with $\Lambda(2000)$ with free mass and width.

Parameter	Central value		Uncertainty
gammaK0(700)	-1.015201	±	0.071213
ArK0(700)1	-2.286375	±	0.122738
AiK0(700)1	-0.442269	±	0.106533
ArK0(700)2	-4.087102	±	0.124023
AiK0(700)2	3.274342	±	0.194291
ArK(892)2	1.895833	±	0.028186
AiK(892)2	0.610967	±	0.032117
ArK(892)3	-1.040951	±	0.026739
AiK(892)3	0.112943	±	0.019718
ArK(892)4	-0.164185	±	0.037954
AiK(892)4	-1.225489	±	0.027667
gammaK0(1430)	0.051202	±	0.009439
ArK0(1430)1	-1.355791	±	0.086005
AiK0(1430)1	4.038073	±	0.098379
ArK0(1430)2	1.238632	±	0.037099
AiK0(1430)2	1.100437	±	0.058026
ArK2(1430)1	-1.378125	±	0.074844
AiK2(1430)1	0.088754	±	0.035074
ArK2(1430)2	-0.708542	±	0.100386
AiK2(1430)2	2.313544	±	0.072868
ArK2(1430)3	1.449104	±	0.045100
AiK2(1430)3	0.501451	±	0.048451
ArK2(1430)4	0.794151	±	0.048790
AiK2(1430)4	-0.343603	±	0.042746
ArL(1405)1	-1.105137	±	0.065720
AiL(1405)1	0.693420	±	0.047099
ArL(1405)2	2.277777	±	0.048768
AiL(1405)2	0.954193	±	0.092224
ArL(1520)1	-0.157492	±	0.005304
AiL(1520)1	-0.191015	±	0.008221
ArL(1520)2	-0.093872	±	0.015492
AiL(1520)2	0.631942	±	0.011445
ArL(1600)1	1.311057	±	0.041940
AiL(1600)1	-0.054762	±	0.065722
ArL(1600)2	0.620240	±	0.048336
AiL(1600)2	1.262627	±	0.046357
ArL(1670)1	0.194674	±	0.007222
AiL(1670)1	-0.009927	±	0.012354
ArL(1670)2	0.411999	±	0.007920
AiL(1670)2	0.134807	±	0.011797
ArL(1690)1	0.236584	±	0.029145
AiL(1690)1	-0.387975	±	0.011517
ArL(1690)2	-0.863491	±	0.028295
AiL(1690)2	0.533567	±	0.020504
ArL(1710)1	0.100767	±	0.078953
AiL(1710)1	-0.497895	±	0.048925
ArL(1710)2	1.607386	±	0.061449
AiL(1710)2	0.370659	±	0.057887
ArL(1800)1	-0.051635	±	0.069670
AiL(1800)1	-0.775465	±	0.064257
ArL(1800)2	-0.671191	±	0.071161
AiL(1800)2	-0.597989	±	0.078980
ArL(1810)1	0.031036	±	0.042239
AiL(1810)1	1.200145	±	0.025170
ArL(1810)2	-0.244337	±	0.040667
AiL(1810)2	0.164999	±	0.021640
ArL(1820)1	0.167515	±	0.020186
AiL(1820)1	1.079765	±	0.028584
ArL(1820)2	-0.420067	±	0.026127
AiL(1820)2	0.077999	±	0.019238
ArL(1830)1	0.479108	±	0.014014
AiL(1830)1	-0.068301	±	0.026749
ArL(1830)2	-0.330668	±	0.020253
AiL(1830)2	-0.368569	±	0.025812
ArL(1890)1	0.317206	±	0.024324
AiL(1890)1	-0.207326	±	0.030256
ArL(1890)2	0.031577	±	0.035040
AiL(1890)2	-0.528344	±	0.032659
ML(2000)	1.972469	±	0.002852
GL(2000)	0.147632	±	0.004057
ArL(2000)1	-1.564131	±	0.091124
AiL(2000)1	-1.889342	±	0.107231
ArL(2000)2	-0.757457	±	0.072114
AiL(2000)2	-1.112256	±	0.065770
ArD(1232)1	-1.721263	±	0.040487
AiD(1232)1	-0.079867	±	0.068955
ArD(1232)2	-3.558685	±	0.077708
AiD(1232)2	2.342807	±	0.066792
ArD(1600)1	0.193396	±	0.069657
AiD(1600)1	-2.901030	±	0.068620
ArD(1600)2	0.352279	±	0.052054
AiD(1600)2	-2.082143	±	0.042203
ArD(1620)1	0.001772	±	0.018826
AiD(1620)1	1.130512	±	0.026022
ArD(1620)2	-0.718421	±	0.020103
AiD(1620)2	-0.676717	±	0.029722
ArD(1700)1	1.608341	±	0.074784
AiD(1700)1	-1.772478	±	0.049249
ArD(1700)2	1.155971	±	0.055123
AiD(1700)2	-1.133959	±	0.061293

Table 29: Alternative amplitude model with $\Lambda(2100)$ contribution added with mass and width fixed to PDG values.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.841261	±	0.058168
ArK0(700)1	-2.071214	±	0.105512
AiK0(700)1	-0.577937	±	0.100557
ArK0(700)2	-4.245652	±	0.128764
AiK0(700)2	3.105820	±	0.169873
ArK(892)2	1.885768	±	0.016935
AiK(892)2	0.584840	±	0.033558
ArK(892)3	-1.042818	±	0.019571
AiK(892)3	0.185146	±	0.023620
ArK(892)4	-0.205527	±	0.038084
AiK(892)4	-1.221198	±	0.017936
gammaK0(1430)	0.072523	±	0.005724
ArK0(1430)1	-1.356748	±	0.102186
AiK0(1430)1	3.767077	±	0.085805
ArK0(1430)2	1.102995	±	0.073122
AiK0(1430)2	1.132917	±	0.058526
ArK2(1430)1	-1.460291	±	0.062460
AiK2(1430)1	0.210941	±	0.045019
ArK2(1430)2	-0.689608	±	0.058384
AiK2(1430)2	2.427009	±	0.049417
ArK2(1430)3	1.553577	±	0.046535
AiK2(1430)3	0.552893	±	0.064267
ArK2(1430)4	0.953988	±	0.043836
AiK2(1430)4	-0.401680	±	0.036121
ArL(1405)1	-0.822764	±	0.069516
AiL(1405)1	0.689941	±	0.059285
ArL(1405)2	2.547402	±	0.055195
AiL(1405)2	0.989752	±	0.091801
ArL(1520)1	-0.144761	±	0.007695
AiL(1520)1	-0.188667	±	0.007470
ArL(1520)2	-0.077707	±	0.017104
AiL(1520)2	0.639377	±	0.007581
ArL(1600)1	1.324979	±	0.042704
AiL(1600)1	-0.035470	±	0.061334
ArL(1600)2	0.720459	±	0.071848
AiL(1600)2	1.174949	±	0.075990
ArL(1670)1	0.197665	±	0.005766
AiL(1670)1	0.004054	±	0.007252
ArL(1670)2	0.408191	±	0.004178
AiL(1670)2	0.124881	±	0.013267
ArL(1690)1	0.222304	±	0.026356
AiL(1690)1	-0.411819	±	0.021608
ArL(1690)2	-0.860674	±	0.020646
AiL(1690)2	0.585637	±	0.029312
ArL(1710)1	0.274148	±	0.074352
AiL(1710)1	-0.556573	±	0.046863
ArL(1710)2	1.679958	±	0.067703
AiL(1710)2	0.175355	±	0.103749
ArL(1800)1	0.311133	±	0.055353
AiL(1800)1	-0.452194	±	0.054087
ArL(1800)2	-0.457654	±	0.044775
AiL(1800)2	-0.296815	±	0.043872
ArL(1810)1	-0.013986	±	0.046460
AiL(1810)1	1.122119	±	0.035733
ArL(1810)2	-0.383780	±	0.029207
AiL(1810)2	0.139516	±	0.039194
ArL(1820)1	0.228056	±	0.028608
AiL(1820)1	1.006210	±	0.029559
ArL(1820)2	-0.476272	±	0.013566
AiL(1820)2	0.061287	±	0.020281
ArL(1830)1	0.486832	±	0.022018
AiL(1830)1	0.018127	±	0.028078
ArL(1830)2	-0.385181	±	0.027821
AiL(1830)2	-0.371466	±	0.031769
ArL(1890)1	0.526260	±	0.036268
AiL(1890)1	-0.251830	±	0.028882
ArL(1890)2	0.013502	±	0.034645
AiL(1890)2	-0.540563	±	0.013046
ArL(2000)1	-1.396017	±	0.069464
AiL(2000)1	-2.680287	±	0.066866
ArL(2000)2	-0.463375	±	0.038531
AiL(2000)2	-1.527266	±	0.041560
ArL(2100)1	-0.710885	±	0.090843
AiL(2100)1	0.440740	±	0.078020
ArL(2100)2	0.149350	±	0.047740
AiL(2100)2	-0.778475	±	0.104606
ArD(1232)1	-1.552021	±	0.032527
AiD(1232)1	-0.103234	±	0.052704
ArD(1232)2	-3.503164	±	0.066114
AiD(1232)2	2.419982	±	0.072684
ArD(1600)1	0.133427	±	0.097181
AiD(1600)1	-3.085954	±	0.074962
ArD(1600)2	0.213694	±	0.068981
AiD(1600)2	-1.984711	±	0.037941
ArD(1620)1	0.073998	±	0.034174
AiD(1620)1	1.185857	±	0.026057
ArD(1620)2	-0.766350	±	0.025197
AiD(1620)2	-0.686545	±	0.033235
ArD(1700)1	1.309926	±	0.061876
AiD(1700)1	-1.685638	±	0.048195
ArD(1700)2	1.151189	±	0.042387
AiD(1700)2	-0.927297	±	0.072148

Table 30: Alternative amplitude model with $\Lambda(2110)$ contribution added with mass and width fixed to PDG values.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.996271	±	0.074335
ArK0(700)1	-2.362131	±	0.138322
AiK0(700)1	-0.552640	±	0.116828
ArK0(700)2	-4.349816	±	0.159660
AiK0(700)2	3.432087	±	0.177290
ArK(892)2	1.923847	±	0.014749
AiK(892)2	0.650528	±	0.038019
ArK(892)3	-1.082076	±	0.019961
AiK(892)3	0.119836	±	0.022166
ArK(892)4	-0.133189	±	0.033526
AiK(892)4	-1.267013	±	0.017396
gammaK0(1430)	0.067565	±	0.002932
ArK0(1430)1	-1.576686	±	0.063843
AiK0(1430)1	3.921149	±	0.056173
ArK0(1430)2	1.211942	±	0.042231
AiK0(1430)2	1.203304	±	0.050362
ArK2(1430)1	-1.324458	±	0.051635
AiK2(1430)1	0.121055	±	0.036110
ArK2(1430)2	-0.694032	±	0.069913
AiK2(1430)2	2.354294	±	0.040466
ArK2(1430)3	1.514896	±	0.034414
AiK2(1430)3	0.583230	±	0.070684
ArK2(1430)4	0.827395	±	0.024179
AiK2(1430)4	-0.421883	±	0.048886
ArL(1405)1	-1.071728	±	0.085915
AiL(1405)1	0.743936	±	0.045088
ArL(1405)2	2.341975	±	0.041070
AiL(1405)2	1.181783	±	0.080834
ArL(1520)1	-0.145871	±	0.005634
AiL(1520)1	-0.198032	±	0.008567
ArL(1520)2	-0.116036	±	0.012444
AiL(1520)2	0.647108	±	0.007925
ArL(1600)1	1.400699	±	0.034814
AiL(1600)1	0.054779	±	0.061923
ArL(1600)2	0.557877	±	0.085051
AiL(1600)2	1.266554	±	0.044373
ArL(1670)1	0.201896	±	0.006945
AiL(1670)1	0.004053	±	0.009440
ArL(1670)2	0.412502	±	0.005834
AiL(1670)2	0.148085	±	0.008693
ArL(1690)1	0.227295	±	0.027261
AiL(1690)1	-0.395004	±	0.016921
ArL(1690)2	-0.867369	±	0.015770
AiL(1690)2	0.502843	±	0.018039
ArL(1710)1	0.213768	±	0.105666
AiL(1710)1	-0.615788	±	0.044468
ArL(1710)2	1.617617	±	0.040294
AiL(1710)2	0.478330	±	0.094971
ArL(1800)1	0.212679	±	0.067577
AiL(1800)1	-0.507856	±	0.075697
ArL(1800)2	-0.594366	±	0.042548
AiL(1800)2	-0.294446	±	0.016434
ArL(1810)1	-0.059475	±	0.050149
AiL(1810)1	1.215310	±	0.049708
ArL(1810)2	-0.314299	±	0.029994
AiL(1810)2	0.125930	±	0.022645
ArL(1820)1	0.257451	±	0.034607
AiL(1820)1	1.122338	±	0.024107
ArL(1820)2	-0.450385	±	0.015279
AiL(1820)2	-0.004441	±	0.025683
ArL(1830)1	0.497243	±	0.018951
AiL(1830)1	-0.055582	±	0.025401
ArL(1830)2	-0.312776	±	0.024208
AiL(1830)2	-0.385485	±	0.012064
ArL(1890)1	0.353391	±	0.023167
AiL(1890)1	-0.211313	±	0.024561
ArL(1890)2	0.110201	±	0.019659
AiL(1890)2	-0.565472	±	0.030320
ArL(2000)1	-1.423348	±	0.077617
AiL(2000)1	-2.736806	±	0.049359
ArL(2000)2	-0.474292	±	0.041891
AiL(2000)2	-1.544815	±	0.033447
ArL(2110)1	0.271634	±	0.098271
AiL(2110)1	-0.738616	±	0.130222
ArL(2110)2	-0.198030	±	0.073639
AiL(2110)2	-0.233581	±	0.053850
ArD(1232)1	-1.723341	±	0.053330
AiD(1232)1	-0.165808	±	0.048062
ArD(1232)2	-3.795059	±	0.072238
AiD(1232)2	2.246296	±	0.096463
ArD(1600)1	0.140430	±	0.061449
AiD(1600)1	-3.058361	±	0.049718
ArD(1600)2	0.257800	±	0.050356
AiD(1600)2	-2.099555	±	0.059230
ArD(1620)1	-0.006935	±	0.017994
AiD(1620)1	1.094597	±	0.025927
ArD(1620)2	-0.737077	±	0.011243
AiD(1620)2	-0.690735	±	0.021680
ArD(1700)1	1.617871	±	0.078576
AiD(1700)1	-1.769292	±	0.055884
ArD(1700)2	1.230023	±	0.049517
AiD(1700)2	-1.150797	±	0.064398

Table 31: Alternative amplitude model with $\Sigma^0(1670)$ contribution added with mass and width fixed to PDG values.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.823838	±	0.055829
ArK0(700)1	-2.261809	±	0.101285
AiK0(700)1	-0.515020	±	0.130699
ArK0(700)2	-3.982178	±	0.178367
AiK0(700)2	3.290984	±	0.140751
ArK(892)2	1.932545	±	0.022838
AiK(892)2	0.568130	±	0.063202
ArK(892)3	-1.084645	±	0.031235
AiK(892)3	0.244495	±	0.045306
ArK(892)4	-0.298873	±	0.065138
AiK(892)4	-1.267644	±	0.030753
gammaK0(1430)	0.071259	±	0.007871
ArK0(1430)1	-1.901627	±	0.180436
AiK0(1430)1	3.843361	±	0.114436
ArK0(1430)2	1.325148	±	0.079684
AiK0(1430)2	1.139093	±	0.092158
ArK2(1430)1	-1.529421	±	0.062483
AiK2(1430)1	0.357193	±	0.066563
ArK2(1430)2	-0.550662	±	0.119809
AiK2(1430)2	2.640333	±	0.049720
ArK2(1430)3	1.506956	±	0.025970
AiK2(1430)3	0.666128	±	0.095124
ArK2(1430)4	1.085614	±	0.058879
AiK2(1430)4	-0.161283	±	0.069305
ArL(1405)1	-0.906948	±	0.114519
AiL(1405)1	0.691325	±	0.048448
ArL(1405)2	2.518006	±	0.069036
AiL(1405)2	1.018937	±	0.156245
ArL(1520)1	-0.110548	±	0.013854
AiL(1520)1	-0.188695	±	0.012859
ArL(1520)2	-0.077477	±	0.030137
AiL(1520)2	0.671772	±	0.010878
ArL(1600)1	1.328135	±	0.091651
AiL(1600)1	-0.077244	±	0.091550
ArL(1600)2	0.629917	±	0.101168
AiL(1600)2	1.260969	±	0.075709
ArL(1670)1	0.165386	±	0.012214
AiL(1670)1	-0.025955	±	0.012988
ArL(1670)2	0.372138	±	0.009593
AiL(1670)2	0.147279	±	0.019867
ArL(1690)1	-1.501404	±	0.236703
AiL(1690)1	-0.990622	±	0.223778
ArL(1690)2	-2.445905	±	0.138180
AiL(1690)2	-0.593417	±	0.192633
ArL(1710)1	0.193651	±	0.121690
AiL(1710)1	-0.434600	±	0.110869
ArL(1710)2	1.556111	±	0.066063
AiL(1710)2	0.323635	±	0.107081
ArL(1800)1	0.229093	±	0.066644
AiL(1800)1	-0.326349	±	0.088555
ArL(1800)2	-0.408566	±	0.045329
AiL(1800)2	-0.494133	±	0.096697
ArL(1810)1	0.025925	±	0.070654
AiL(1810)1	1.136090	±	0.064548
ArL(1810)2	-0.287978	±	0.047144
AiL(1810)2	0.298791	±	0.052412
ArL(1820)1	0.253737	±	0.058839
AiL(1820)1	1.112802	±	0.037670
ArL(1820)2	-0.446773	±	0.034520
AiL(1820)2	0.006643	±	0.031557
ArL(1830)1	0.420538	±	0.029648
AiL(1830)1	-0.048497	±	0.027934
ArL(1830)2	-0.424508	±	0.043820
AiL(1830)2	-0.235162	±	0.044306
ArL(1890)1	0.205199	±	0.042439
AiL(1890)1	-0.230270	±	0.043656
ArL(1890)2	-0.017411	±	0.043954
AiL(1890)2	-0.476352	±	0.037897
ArL(2000)1	-1.374558	±	0.109688
AiL(2000)1	-2.687245	±	0.081696
ArL(2000)2	-0.624566	±	0.092481
AiL(2000)2	-1.786799	±	0.069320
ArS(1670)1	1.770460	±	0.223476
AiS(1670)1	-0.001666	±	0.230124
ArS(1670)2	1.758057	±	0.149121
AiS(1670)2	0.605410	±	0.161414
ArD(1232)1	-1.741497	±	0.053245
AiD(1232)1	0.150010	±	0.068541
ArD(1232)2	-3.511989	±	0.127039
AiD(1232)2	2.428557	±	0.148605
ArD(1600)1	-0.109765	±	0.144324
AiD(1600)1	-2.835160	±	0.106643
ArD(1600)2	0.535360	±	0.106469
AiD(1600)2	-2.041610	±	0.071933
ArD(1620)1	0.088299	±	0.061965
AiD(1620)1	1.205787	±	0.030037
ArD(1620)2	-0.729074	±	0.034992
AiD(1620)2	-0.766742	±	0.045722
ArD(1700)1	1.323529	±	0.137760
AiD(1700)1	-2.075300	±	0.091807
ArD(1700)2	1.066539	±	0.071656
AiD(1700)2	-1.019794	±	0.083554

Table 32: Alternative amplitude model with $\Sigma^0(1775)$ contribution added with mass and width fixed to PDG values.

Parameter	Central value		Uncertainty
gammaK0(700)	-0.979409	±	0.043554
ArK0(700)1	-2.240331	±	0.058110
AiK0(700)1	-0.284861	±	0.113840
ArK0(700)2	-4.607230	±	0.168450
AiK0(700)2	2.645816	±	0.183758
ArK(892)2	1.855045	±	0.026450
AiK(892)2	0.769375	±	0.055692
ArK(892)3	-1.065225	±	0.033057
AiK(892)3	0.073116	±	0.036695
ArK(892)4	-0.087678	±	0.057983
AiK(892)4	-1.230466	±	0.032376
gammaK0(1430)	0.075277	±	0.004653
ArK0(1430)1	-1.231049	±	0.145147
AiK0(1430)1	3.618216	±	0.109974
ArK0(1430)2	0.897906	±	0.094943
AiK0(1430)2	1.452927	±	0.082503
ArK2(1430)1	-1.483389	±	0.104242
AiK2(1430)1	0.134576	±	0.054683
ArK2(1430)2	-0.766551	±	0.142462
AiK2(1430)2	2.675773	±	0.051084
ArK2(1430)3	1.495816	±	0.020750
AiK2(1430)3	0.460155	±	0.086123
ArK2(1430)4	0.580365	±	0.066974
AiK2(1430)4	-0.600735	±	0.062434
ArL(1405)1	-0.951430	±	0.092745
AiL(1405)1	0.678215	±	0.085913
ArL(1405)2	2.495979	±	0.041745
AiL(1405)2	0.827224	±	0.140261
ArL(1520)1	-0.148365	±	0.010005
AiL(1520)1	-0.204416	±	0.014004
ArL(1520)2	-0.059067	±	0.025783
AiL(1520)2	0.635310	±	0.012586
ArL(1600)1	1.181777	±	0.083670
AiL(1600)1	-0.298109	±	0.103437
ArL(1600)2	0.375062	±	0.064869
AiL(1600)2	1.107993	±	0.086556
ArL(1670)1	0.183127	±	0.006853
AiL(1670)1	0.000508	±	0.012336
ArL(1670)2	0.428448	±	0.006328
AiL(1670)2	0.115524	±	0.020681
ArL(1690)1	0.201601	±	0.041731
AiL(1690)1	-0.374038	±	0.023681
ArL(1690)2	-0.855370	±	0.040900
AiL(1690)2	0.470975	±	0.023543
ArL(1710)1	-0.277058	±	0.148139
AiL(1710)1	-0.461519	±	0.088230
ArL(1710)2	1.391334	±	0.074868
AiL(1710)2	0.838579	±	0.078140
ArL(1800)1	0.144390	±	0.069764
AiL(1800)1	-0.229361	±	0.063326
ArL(1800)2	-0.819230	±	0.079294
AiL(1800)2	-0.160609	±	0.063223
ArL(1810)1	0.080396	±	0.072464
AiL(1810)1	1.275578	±	0.061211
ArL(1810)2	-0.159477	±	0.037983
AiL(1810)2	0.054090	±	0.019383
ArL(1820)1	0.280506	±	0.039058
AiL(1820)1	1.057921	±	0.030572
ArL(1820)2	-0.491424	±	0.018189
AiL(1820)2	-0.067990	±	0.028066
ArL(1830)1	-0.076923	±	0.072071
AiL(1830)1	-0.623659	±	0.083071
ArL(1830)2	-0.090309	±	0.046878
AiL(1830)2	-0.118750	±	0.037192
ArL(1890)1	0.326270	±	0.032562
AiL(1890)1	-0.176963	±	0.044376
ArL(1890)2	0.205418	±	0.048794
AiL(1890)2	-0.476666	±	0.020680
ArL(2000)1	-0.956993	±	0.097002
AiL(2000)1	-2.685100	±	0.097786
ArL(2000)2	-0.282205	±	0.073489
AiL(2000)2	-1.485106	±	0.063550
ArS(1775)1	1.299394	±	0.100452
AiS(1775)1	0.493445	±	0.117366
ArS(1775)2	-0.658267	±	0.087927
AiS(1775)2	-0.111984	±	0.052570
ArD(1232)1	-1.753121	±	0.037343
AiD(1232)1	-0.107643	±	0.071438
ArD(1232)2	-3.710201	±	0.115711
AiD(1232)2	2.156118	±	0.108982
ArD(1600)1	0.136871	±	0.124256
AiD(1600)1	-2.688979	±	0.092842
ArD(1600)2	0.528972	±	0.085971
AiD(1600)2	-2.222069	±	0.043701
ArD(1620)1	0.145988	±	0.046940
AiD(1620)1	1.129449	±	0.040946
ArD(1620)2	-0.739385	±	0.022548
AiD(1620)2	-0.750140	±	0.035375
ArD(1700)1	1.702934	±	0.114082
AiD(1700)1	-1.490155	±	0.083730
ArD(1700)2	1.276956	±	0.067652
AiD(1700)2	-0.650409	±	0.088610

Table 33: Alternative amplitude model with free radial parameter d for the Ξ_c resonance, indicated as rXic.

Parameter	Central value		Uncertainty
rXic	2.403739	±	0.387697
gammaK0(700)	-0.849096	±	0.038505
ArK0(700)1	-2.259036	±	0.074854
AiK0(700)1	-0.455489	±	0.121525
ArK0(700)2	-3.932911	±	0.159335
AiK0(700)2	2.807363	±	0.178149
ArK(892)2	1.904697	±	0.015489
AiK(892)2	0.605932	±	0.055156
ArK(892)3	-1.054476	±	0.028038
AiK(892)3	0.131904	±	0.036228
ArK(892)4	-0.178249	±	0.060206
AiK(892)4	-1.214819	±	0.024825
gammaK0(1430)	0.049854	±	0.004591
ArK0(1430)1	-1.177948	±	0.221859
AiK0(1430)1	3.874388	±	0.085748
ArK0(1430)2	1.019776	±	0.100146
AiK0(1430)2	1.107018	±	0.081614
ArK2(1430)1	-1.533829	±	0.113093
AiK2(1430)1	0.257908	±	0.071043
ArK2(1430)2	-0.612105	±	0.115394
AiK2(1430)2	2.541541	±	0.067029
ArK2(1430)3	1.482444	±	0.032782
AiK2(1430)3	0.393489	±	0.113982
ArK2(1430)4	0.690823	±	0.079607
AiK2(1430)4	-0.575883	±	0.099398
ArL(1405)1	-0.870726	±	0.093267
AiL(1405)1	0.604489	±	0.102624
ArL(1405)2	2.632950	±	0.078717
AiL(1405)2	0.833149	±	0.162887
ArL(1520)1	-0.166058	±	0.013627
AiL(1520)1	-0.194306	±	0.011296
ArL(1520)2	-0.056841	±	0.035042
AiL(1520)2	0.639433	±	0.009871
ArL(1600)1	1.329970	±	0.042740
AiL(1600)1	-0.355462	±	0.131613
ArL(1600)2	0.548857	±	0.063425
AiL(1600)2	1.274125	±	0.077637
ArL(1670)1	0.193702	±	0.009051
AiL(1670)1	-0.005970	±	0.014746
ArL(1670)2	0.412135	±	0.006465
AiL(1670)2	0.111160	±	0.025392
ArL(1690)1	0.193598	±	0.044664
AiL(1690)1	-0.413077	±	0.015952
ArL(1690)2	-0.835363	±	0.040821
AiL(1690)2	0.581917	±	0.036910
ArL(1710)1	-0.110812	±	0.150510
AiL(1710)1	-0.570769	±	0.050150
ArL(1710)2	1.684165	±	0.054466
AiL(1710)2	0.441226	±	0.072540
ArL(1800)1	0.216192	±	0.077683
AiL(1800)1	-0.315943	±	0.079859
ArL(1800)2	-0.651346	±	0.071813
AiL(1800)2	-0.169622	±	0.087331
ArL(1810)1	0.072303	±	0.076621
AiL(1810)1	1.260919	±	0.051969
ArL(1810)2	-0.292366	±	0.038946
AiL(1810)2	0.104087	±	0.020369
ArL(1820)1	0.289333	±	0.060154
AiL(1820)1	1.109746	±	0.027199
ArL(1820)2	-0.436786	±	0.025821
AiL(1820)2	0.072299	±	0.021934
ArL(1830)1	0.502871	±	0.031096
AiL(1830)1	-0.023647	±	0.029116
ArL(1830)2	-0.335635	±	0.040259
AiL(1830)2	-0.378690	±	0.031410
ArL(1890)1	0.366059	±	0.026973
AiL(1890)1	-0.156186	±	0.039533
ArL(1890)2	0.185856	±	0.053414
AiL(1890)2	-0.517338	±	0.023202
ArL(2000)1	-1.199134	±	0.084877
AiL(2000)1	-2.608201	±	0.078171
ArL(2000)2	-0.492491	±	0.066687
AiL(2000)2	-1.591657	±	0.062504
ArD(1232)1	-1.731180	±	0.035431
AiD(1232)1	-0.146016	±	0.069370
ArD(1232)2	-3.522495	±	0.124934
AiD(1232)2	2.427651	±	0.110244
ArD(1600)1	-0.200716	±	0.177136
AiD(1600)1	-2.851831	±	0.102399
ArD(1600)2	0.254724	±	0.082280
AiD(1600)2	-2.028689	±	0.054729
ArD(1620)1	0.112276	±	0.064023
AiD(1620)1	1.125049	±	0.033461
ArD(1620)2	-0.816775	±	0.025737
AiD(1620)2	-0.623610	±	0.041530
ArD(1700)1	1.433107	±	0.106756
AiD(1700)1	-1.738965	±	0.056180
ArD(1700)2	1.197204	±	0.076778
AiD(1700)2	-1.160258	±	0.076342

References

[1] Particle Data Group, S. Navas *et al.*, *Review of particle physics*, Phys. Rev **D110** (2024) 030001.