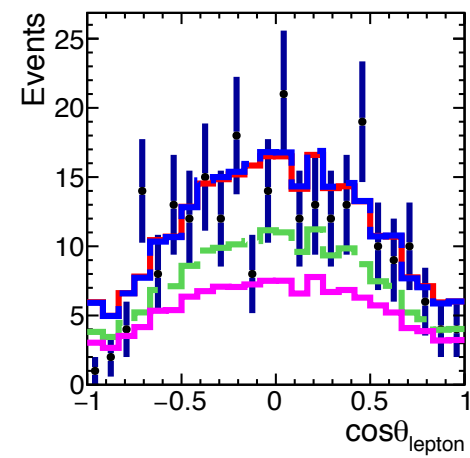
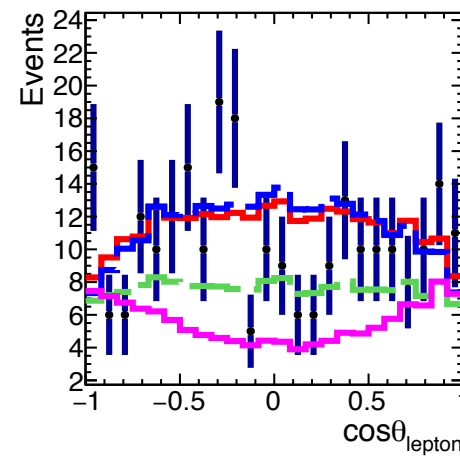
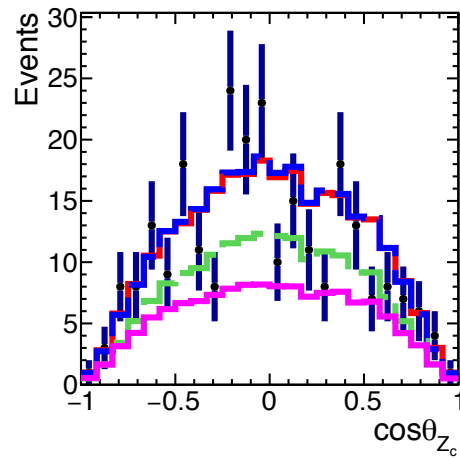
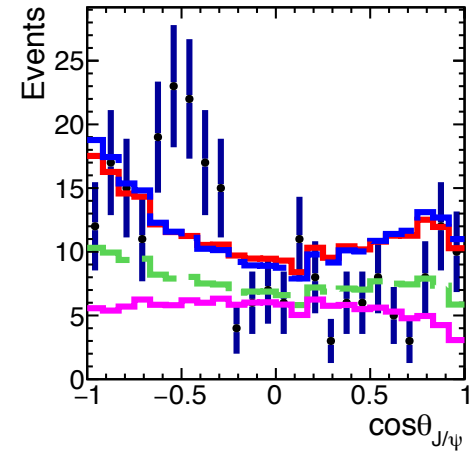
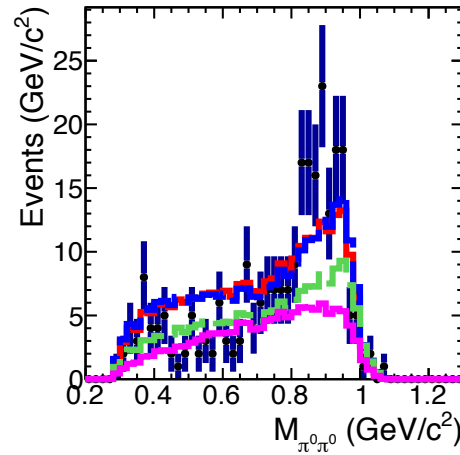
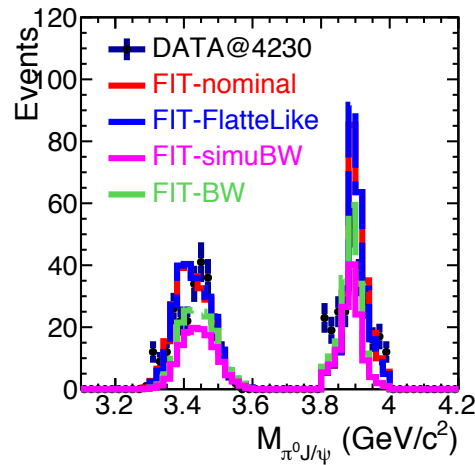
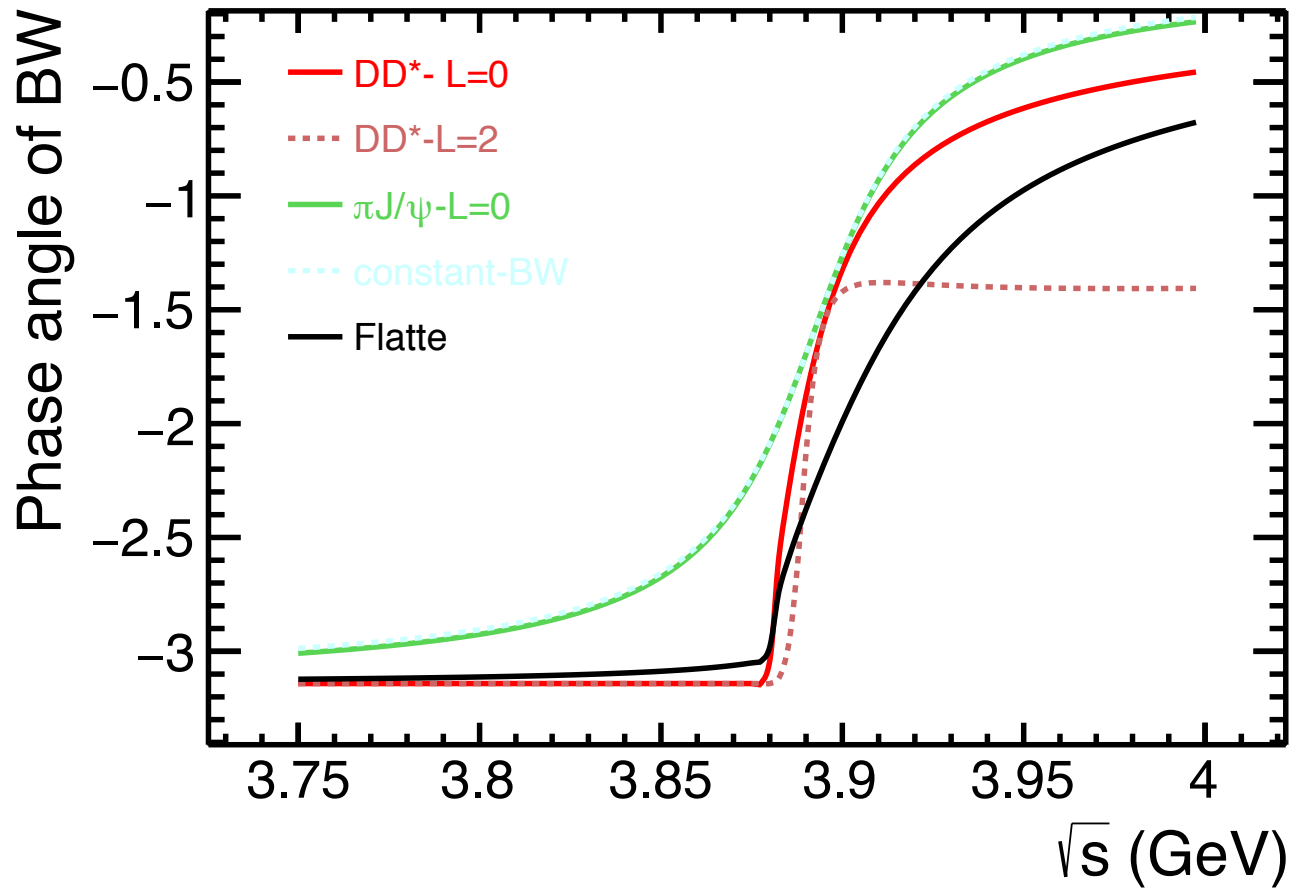


Z_c parameterization



Phase angle of different BW for Z_c



Systematic uncertainty study for PWA

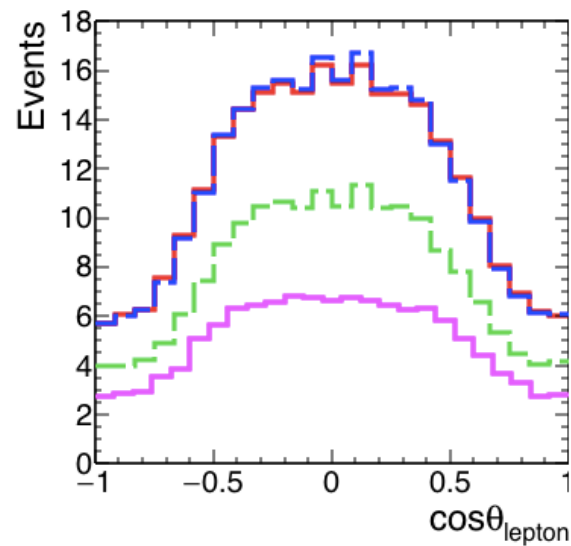
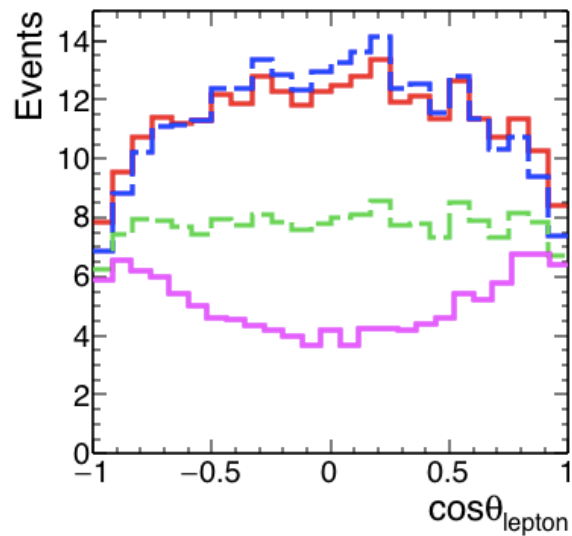
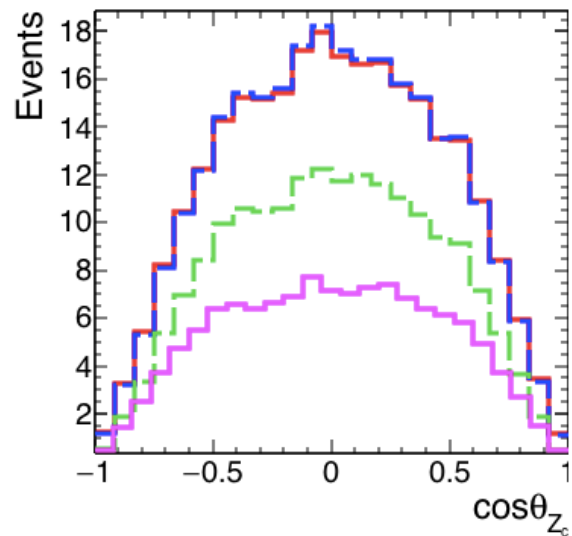
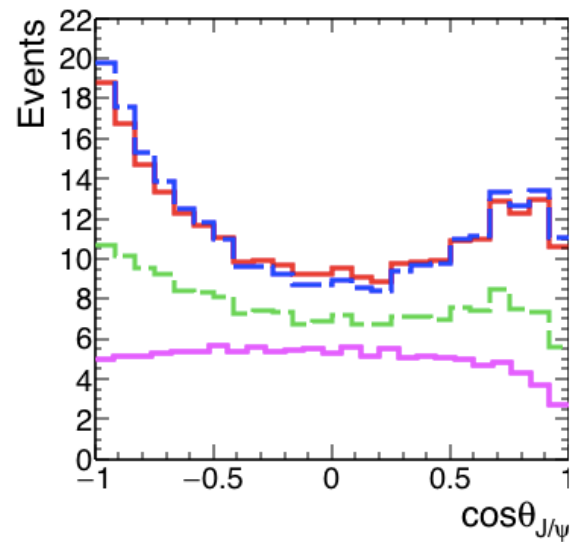
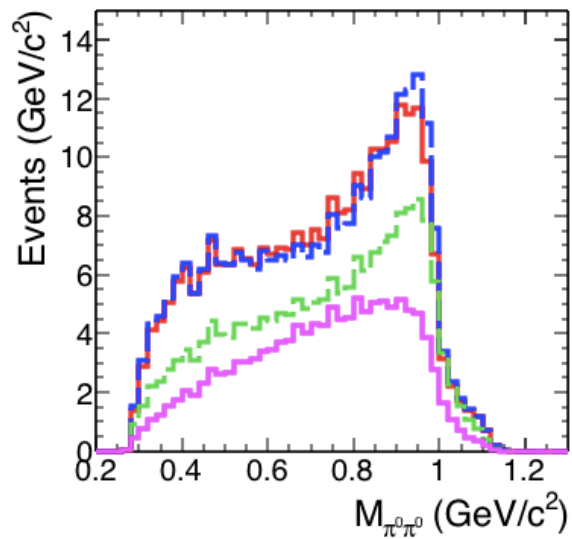
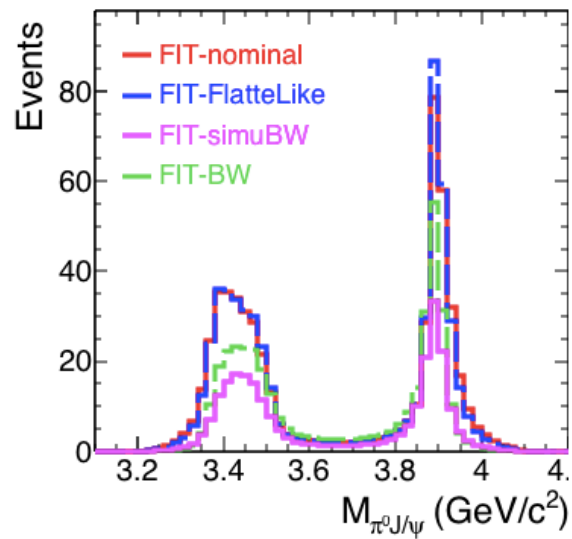
Table 16: Summary of the Mass, g'_1 (fix $g'_2/g'_1 = 27.1$) and fraction of Z_c^0 with different kinds of parametrization.

Sources	Mass	g'_1	fraction			
			4230	4237	4246	4260
Nominal fit	3914.4 ± 4.1	0.080 ± 0.010	0.283 ± 0.034	0.241 ± 0.042	0.179 ± 0.039	0.087 ± 0.022
σ parametrization	3910.3 ± 4.4	0.086 ± 0.013	0.156 ± 0.023	0.210 ± 0.042	0.164 ± 0.035	0.071 ± 0.019
Z_c^0 parametrization	3892.4 ± 2.6	49.2 ± 5.3 (width)	0.149 ± 0.022	0.216 ± 0.042	0.168 ± 0.035	0.101 ± 0.033
$f_0(980)$ Coupling constant	3914.8 ± 4.0	0.081 ± 0.010	0.286 ± 0.034	0.243 ± 0.042	0.181 ± 0.039	0.088 ± 0.022
$f_0(1370)$ parametrization	3916.5 ± 4.4	0.080 ± 0.015	0.295 ± 0.035	0.242 ± 0.042	0.180 ± 0.038	0.087 ± 0.023
Barrier radius	3914.9 ± 4.0	0.086 ± 0.011	0.292 ± 0.034	0.258 ± 0.042	0.188 ± 0.038	0.101 ± 0.024
Background estimation	3914.4 ± 9.9	0.078 ± 0.011	0.283 ± 0.035	0.235 ± 0.039	0.163 ± 0.037	0.087 ± 0.024

Summary of the systematic uncertainties of Z_c^0 mass and coupling parameter g'_1 in percentage

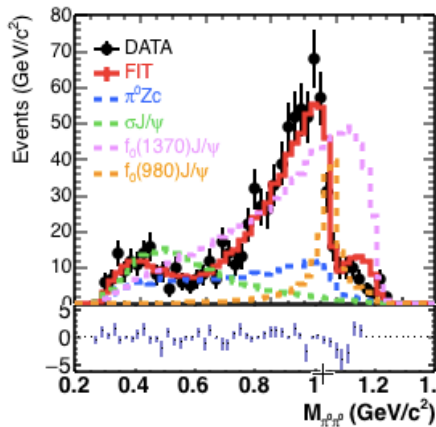
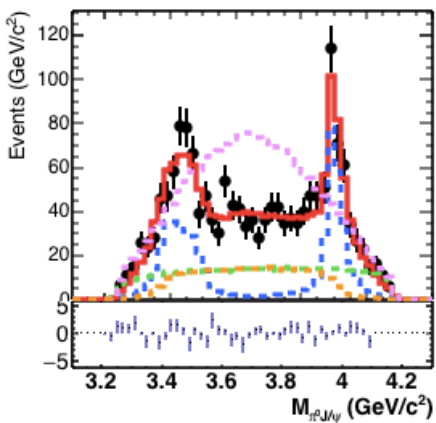
Sources	Mass	g'_1	fraction			
			4230	4237	4246	4260
σ parametrization	0.1	8.0	45.0	12.6	8.7	18.4
Z_c^0 parametrization	0.6	-	47.2	10.0	5.9	15.3
$f_0(980)$ Coupling constant	0.01	1.0	1.0	1.0	1.0	0.1
$f_0(1370)$ parametrization	0.01	0.1	4.1	0.5	0.4	0.9
Barrier radius	0.01	7.7	3.1	7.2	4.9	15.9
Background estimation	0.01	0.1	0.01	2.4	8.8	0.6
Mass resolution	0.01	1.6	0.1	0.2	0.1	0.4
$f_2(1270)$ amplitude	0.01	5.2	27.0	2.5	12.2	58.0
Total	0.61	13.8	70.8	18.0	19.0	64.8

Z_c^0 parametrization

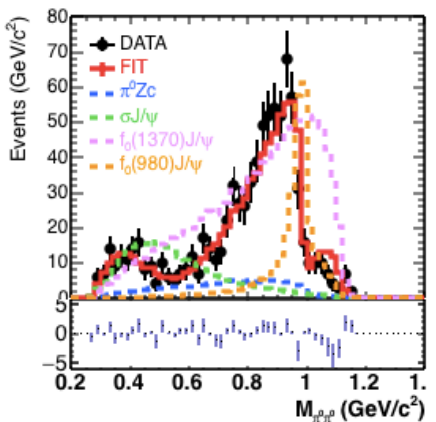
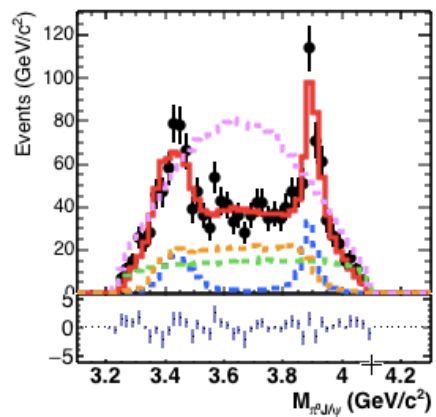


Z_c^0 parametrization

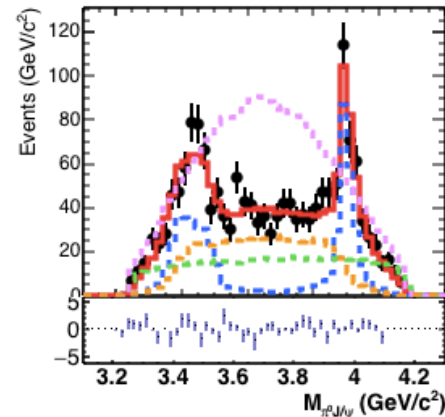
- nominal-Flattelike



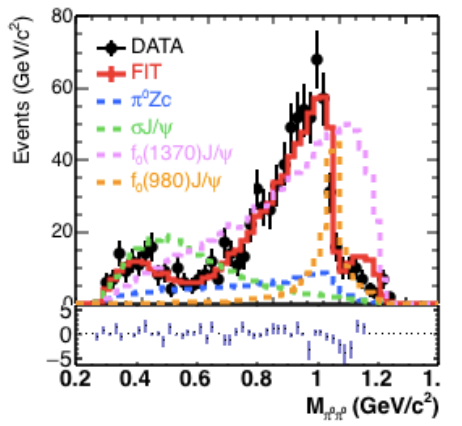
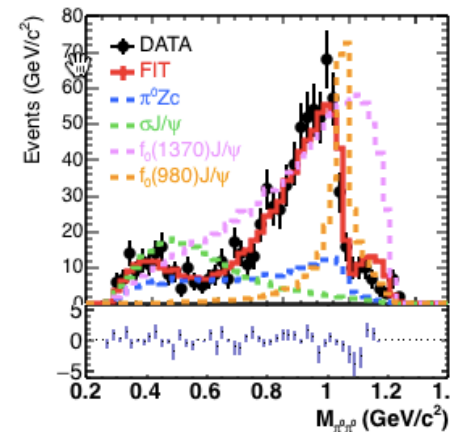
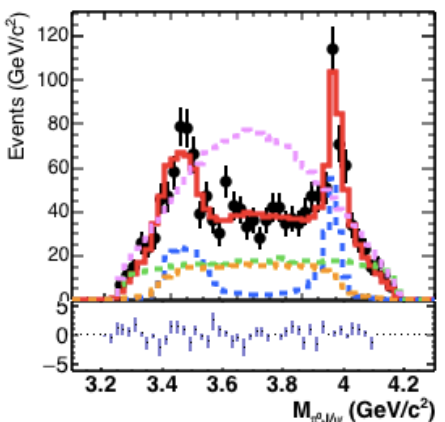
- Simultaneous-BW



- Separate-Flattelike



- Separate-BW



Z_c^0 parameterization

$\sqrt{s}$ (GeV)	amplitudes	Nominal	Separate fit	Simultaneous fit - BW	Separate fit - BW
4.2263	$\pi^0 Z_0(3900)^0$	28.2 ± 3.5	27.8 ± 3.3	15.9 ± 2.4	18.9 ± 2.5
	$\sigma J/\psi$	43.1 ± 9.2	46.2 ± 9.9	41.4 ± 7.3	54.2 ± 8.5
	$f_0(1370)J/\psi$	126.7 ± 12.5	136.1 ± 13.8	137.6 ± 13.0	128.9 ± 13.2
	$f_0(980)J/\psi$	21.9 ± 4.4	23.5 ± 5.0	32.4 ± 5.8	24.5 ± 4.7
4.2357	$\pi^0 Z_0(3900)^0$	23.8 ± 4.2	23.8 ± 4.1	20.1 ± 4.1	25.1 ± 4.2
	$\sigma J/\psi$	54.9 ± 10.5	55.4 ± 11.0	61.7 ± 10.4	58.0 ± 10.6
	$f_0(1370)J/\psi$	121.2 ± 16.6	113.9 ± 16.0	114.1 ± 16.1	113.4 ± 16.6
	$f_0(980)J/\psi$	27.6 ± 7.5	29.0 ± 7.2	29.2 ± 7.4	30.6 ± 7.7
4.2438	$\pi^0 Z_0(3900)^0$	17.8 ± 3.9	16.6 ± 3.6	14.8 ± 3.3	16.2 ± 3.5
	$\sigma J/\psi$	45.3 ± 8.9	39.1 ± 8.6	48.2 ± 12.0	53.8 ± 10.7
	$f_0(1370)J/\psi$	110.7 ± 15.2	106.5 ± 15.7	112.6 ± 15.6	124.1 ± 16.5
	$f_0(980)J/\psi$	18.3 ± 5.1	20.9 ± 5.5	15.8 ± 4.4	17.2 ± 4.4
4.2580	$\pi^0 Z_0(3900)^0$	6.9 ± 2.1	6.2 ± 1.8	7.9 ± 2.5	6.1 ± 1.7
	$\sigma J/\psi$	91.4 ± 9.9	48.7 ± 9.7	63.3 ± 11.1	48.8 ± 9.4
	$f_0(1370)J/\psi$	157.7 ± 16.1	129.4 ± 13.7	172.7 ± 17.2	137.5 ± 14.0
	$f_0(980)J/\psi$	28.5 ± 7.2	16.1 ± 4.7	24.4 ± 7.4	17.5 ± 5.0

Each component

Nominal fit: simultaneous fit with Flatte-like

Amplitudes	fraction at $\sqrt{s} = 4.2663\text{GeV}(\%)$			
	nominal	separate-Flatte-like	simu-BW	separate-BW
$\pi^0 Z_c(3900)^0\text{-SS}$	8.55 ± 1.70	10.22 ± 5.24	13.27 ± 2.19	14.10 ± 4.14
$\pi^0 Z_c(3900)^0\text{-SD}$	13.87 ± 2.76	12.24 ± 6.28	1.92 ± 0.32	0.99 ± 0.29
$\pi^0 Z_c(3900)^0\text{-DS}$	2.50 ± 1.04	2.62 ± 1.72	0.82 ± 1.03	3.25 ± 4.60
$\pi^0 Z_c(3900)^0\text{-DD}$	4.42 ± 1.84	3.40 ± 2.23	0.13 ± 0.16	0.24 ± 0.34
$\sigma J/\psi\text{-S}$	32.97 ± 8.59	34.68 ± 9.69	27.21 ± 7.21	44.68 ± 7.70
$\sigma J/\psi\text{-D}$	11.04 ± 5.94	10.61 ± 5.52	13.94 ± 5.32	8.56 ± 4.75
$f_0(1370)J/\psi\text{-S}$	95.33 ± 12.87	96.58 ± 19.56	79.38 ± 15.37	91.45 ± 21.21
$f_0(1370)J/\psi\text{-D}$	31.98 ± 10.15	37.89 ± 14.87	56.70 ± 15.62	36.29 ± 15.08
$f_0(980)J/\psi\text{-S}$	19.67 ± 4.76	19.69 ± 5.72	16.63 ± 5.29	20.01 ± 5.73
$f_0(980)J/\psi\text{-D}$	2.45 ± 1.52	3.58 ± 2.36	05.46 ± 2.84	4.44 ± 2.95

$\pi^0 Z_c$ and $\pi\pi$ -S component

According to Matthew's comments, I also show the fraction of $\pi^0 Z_c$ and $\pi\pi$ -S wave

$\sqrt{s}$ (GeV)	amplitudes	Nominal	Separate fit	Simultaneous fit - BW	Separate fit - BW
4.2263	$\pi^0 Z_c^0$	28.2 ± 3.5	27.8 ± 3.3	15.9 ± 2.4	18.9 ± 2.5
	$\pi\pi$ -S wave	76.9 ± 5.1	80.9 ± 5.2	81.6 ± 5.3	82.2 ± 5.4
4.2357	$\pi^0 Z_c^0$	23.8 ± 4.2	23.8 ± 4.1	20.1 ± 4.1	25.1 ± 4.2
	$\pi\pi$ -S wave	80.1 ± 7.3	72.6 ± 6.6	76.9 ± 7.4	72.8 ± 6.8
4.2438	$\pi^0 Z_c^0$	17.8 ± 3.9	16.6 ± 3.6	14.8 ± 3.3	16.2 ± 3.5
	$\pi\pi$ -S wave	70.6 ± 6.9	68.6 ± 7.5	81.8 ± 7.7	84.1 ± 8.2
4.2580	$\pi^0 Z_c^0$	6.9 ± 2.1	6.2 ± 1.8	7.9 ± 2.5	6.1 ± 1.7
	$\pi\pi$ -S wave	89.0 ± 6.6	92.2 ± 6.7	96.7 ± 7.3	97.1 ± 6.8