PWA Analysis

Theory framework: Covariant tensor theorem

Software: GPUPWA

Considered processes:

$J/\psi \to \pi^0 X \to \pi^0 \eta \gamma$

	1^{--}	1^{+-}
Isospin Conserved		
	$\rho(770)$	$b_1(1235)$
	$\rho(1450)$	
	$\rho(1570)$	
	$\rho(1700)$	
	$\rho(1900)$	
	$\rho(2150)$	
Isospin Broken		
	$\omega(782)$	$h_1(1170)$
	$\phi(1020)$	$h_1(1415)$
	$\omega(1420)$	$h_1(1595)$
	$\omega(1650)$	
	$\phi(1680)$	
	$\phi(2170)$	

$J/\psi \to \eta X \to \pi^0 \eta \gamma$

	1^{--}	1^{+-}
Isospin Conserved		
	$\omega(782)$	$h_1(1170)$
	$\phi(1020)$	$h_1(1415)$
	$\omega(1420)$	$h_1(1595)$
	$\omega(1650)$	
	$\phi(1680)$	
	$\phi(2170)$	
Isospin Broken		
	$\rho(770)$	$b_1(1235)$
	$\rho(1450)$	
	$\rho(1570)$	
	$\rho(1700)$	
	$\rho(1900)$	
	$\rho(2150)$	

$J/\psi \to X\gamma \to \pi^0 \eta \gamma$

	0^{++}	2^{++}	4^{++}
Isospin Conserved			
	$a_0(980)$	$a_2(1320)$	$a_4(1970)$
	$a_0(1450)$	$a_2(1700)$	
	$a_0(1950)$		
Isospin Broken			
	$f_0(500)$	$f_2(1270)$	$f_4(2050)$
	$f_0(980)$	$f_2(1430)$	$f_4(2300)$
	$f_0(1370)$	$f_2'(1525)$	$f_J(2220)$
	$f_0(1500)$	$f_2(1565)$	
	$f_0(1710)$	$f_2(1640)$	
	$f_0(2020)$	$f_2(1810)$	
	$f_0(2100)$	$f_2(1910)$	
	$f_0(2200)$	$f_2(1950)$	
	$f_0(2330)$	$f_2(2010)$	
		$f_2(2150)$	
		$f_2(2300)$	
		$f_2(2340)$	

$\pi_1(1400)$
$\pi_1(1600)$

PWA Analysis

Basic solution:
- Known component scan finished
- Due to the limited statistics, not all components' mass & width scanned

		0^{++}	2^{++}	4^{++}
$J/\psi \to X\gamma \to \pi^0\eta\gamma$		Isospin Conserved		
		$a_0(980)$	$a_2(1320)$	
		$a_0(1950)$	$a_2(1700)$	
		1^{--}	1^{+-}	
$J/\psi \to \pi^0 X \to \pi^0\eta\gamma$		Isospin Conserved		
		$\rho(770)$	$b_1(1235)$	
		$\rho(1450)$		
		1^{--}	1^{+-}	
$J/\psi \to \eta X \to \pi^0\eta\gamma$		Isospin Conserved		
		$h_1(1170)$		
		$h_1(1595)$		

component	significance
a0_980	35.3983
a2_1320	28.0202
a2_1710	11.2474
a0_1950	5.21758
rho_770	11.6176
rho_1450	14.6537
h1_1170	21.0812
h1_1595	7.9924