

$N(1720) \ 3/2^+$ $I(J^P) = \frac{1}{2}(\frac{3}{2}^+)$ Status: ****Older and obsolete values are listed and referenced in the 2014 edition, Chinese Physics **C38** 070001 (2014). **$N(1720)$ POLE POSITION****REAL PART**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
1660 to 1710 (\approx 1680) OUR ESTIMATE			
1710 \pm 20	SARANTSEV 25	DPWA	Multichannel
1726 \pm 4	ROENCHEN 22	DPWA	Multichannel
1677 \pm 4 \pm 1	¹ SVARC 14	L+P	$\pi N \rightarrow \pi N$
1680 \pm 30	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
1654	HUNT 19	DPWA	Multichannel
1710	ROENCHEN 15A	DPWA	Multichannel
1670 \pm 25	SOKHOYAN 15A	DPWA	Multichannel
1670	SHKLYAR 13	DPWA	Multichannel
1691 \pm 23	BATINIC 10	DPWA	$\pi N \rightarrow N\pi, N\eta$
1666	ARNDT 06	DPWA	$\pi N \rightarrow \pi N, \eta N$
1692	VRANA 00	DPWA	Multichannel
1686	HOEHLER 93	SPED	$\pi N \rightarrow \pi N$

¹ Fit to the amplitudes of HOEHLER 79.**-2 \times IMAGINARY PART**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
150 to 300 (\approx 200) OUR ESTIMATE			
180 \pm 30	SARANTSEV 25	DPWA	Multichannel
185 \pm 6	ROENCHEN 22	DPWA	Multichannel
184 \pm 8 \pm 1	¹ SVARC 14	L+P	$\pi N \rightarrow \pi N$
120 \pm 40	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
100	HUNT 19	DPWA	Multichannel
219	ROENCHEN 15A	DPWA	Multichannel
430 \pm 100	SOKHOYAN 15A	DPWA	Multichannel
118	SHKLYAR 13	DPWA	Multichannel
233 \pm 23	BATINIC 10	DPWA	$\pi N \rightarrow N\pi, N\eta$
355	ARNDT 06	DPWA	$\pi N \rightarrow \pi N, \eta N$
94	VRANA 00	DPWA	Multichannel
187	HOEHLER 93	SPED	$\pi N \rightarrow \pi N$

¹ Fit to the amplitudes of HOEHLER 79.

$N(1720)$ ELASTIC POLE RESIDUE**MODULUS $|r|$**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
10 to 25 (≈ 15) OUR ESTIMATE			
15 ± 1	ROENCHEN	22 DPWA	Multichannel
26 ± 10	SOKHOYAN	15A DPWA	Multichannel
13 ± 1	¹ SVARC	14 L+P	$\pi N \rightarrow \pi N$
8 ± 2	CUTKOSKY	80 IPWA	$\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
4.2	ROENCHEN	15A DPWA	Multichannel
12	SHKLYAR	13 DPWA	Multichannel
22 ± 8	ANISOVICH	12A DPWA	Multichannel
20	BATINIC	10 DPWA	$\pi N \rightarrow N\pi, N\eta$
25	ARNDT	06 DPWA	$\pi N \rightarrow \pi N, \eta N$
15	HOEHLER	93 SPED	$\pi N \rightarrow \pi N$

¹Fit to the amplitudes of HOEHLER 79.**PHASE θ**

<u>VALUE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
-160 to -60 (≈ -110) OUR ESTIMATE			
-60 ± 3	ROENCHEN	22 DPWA	Multichannel
-100 ± 25	SOKHOYAN	15A DPWA	Multichannel
-115 $\pm 3 \pm 2$	¹ SVARC	14 L+P	$\pi N \rightarrow \pi N$
-160 ± 30	CUTKOSKY	80 IPWA	$\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
-47	ROENCHEN	15A DPWA	Multichannel
-45	SHKLYAR	13 DPWA	Multichannel
-115 ± 30	ANISOVICH	12A DPWA	Multichannel
-109	BATINIC	10 DPWA	$\pi N \rightarrow N\pi, N\eta$
-94	ARNDT	06 DPWA	$\pi N \rightarrow \pi N, \eta N$

¹Fit to the amplitudes of HOEHLER 79. **$N(1720)$ INELASTIC POLE RESIDUE**The "normalized residue" is the residue divided by $\Gamma_{pole}/2$.**Normalized residue in $N\pi \rightarrow N(1720) \rightarrow N\eta$**

<u>MODULUS</u>	<u>PHASE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.049 ± 0.005	64 ± 5	ROENCHEN	22 DPWA	Multichannel
0.03 ± 0.02		ANISOVICH	12A DPWA	Multichannel
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
0.007	106	ROENCHEN	15A DPWA	Multichannel

Normalized residue in $N\pi \rightarrow N(1720) \rightarrow \Lambda K$

<u>MODULUS</u>	<u>PHASE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.034 ± 0.002	-101 ± 4	ROENCHEN	22 DPWA	Multichannel
0.06 ± 0.04	-150 ± 45	ANISOVICH	12A DPWA	Multichannel
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
0.011	-70	ROENCHEN	15A DPWA	Multichannel

Normalized residue in $N\pi \rightarrow N(1720) \rightarrow \Sigma K$

<u>MODULUS</u>	<u>PHASE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.059 ± 0.005	82 ± 3	ROENCHEN	22	DPWA Multichannel
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.002	79	ROENCHEN	15A	DPWA Multichannel

Normalized residue in $N\pi \rightarrow N(1720) \rightarrow \Delta\pi, P\text{-wave}$

<u>MODULUS</u>	<u>PHASE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.28 ± 0.09	95 ± 30	SOKHOYAN	15A	DPWA Multichannel
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.29 ± 0.08	80 ± 40	ANISOVICH	12A	DPWA Multichannel

Normalized residue in $N\pi \rightarrow N(1720) \rightarrow \Delta\pi, F\text{-wave}$

<u>MODULUS</u>	<u>PHASE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.07 ± 0.05		SOKHOYAN	15A	DPWA Multichannel
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.03 ± 0.03		ANISOVICH	12A	DPWA Multichannel

Normalized residue in $N\pi \rightarrow N(1720) \rightarrow N\sigma$

<u>MODULUS</u>	<u>PHASE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.08 ± 0.04	-110 ± 35	SOKHOYAN	15A	DPWA Multichannel

Normalized residue in $N\pi \rightarrow N(1720) \rightarrow N(1520)\pi, S\text{-wave}$

<u>MODULUS</u>	<u>PHASE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.05 ± 0.04	undefined	SOKHOYAN	15A	DPWA Multichannel

 $N(1720)$ BREIT-WIGNER MASS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1680 to 1750 (≈ 1720) OUR ESTIMATE			
1716 \pm 18	SARANTSEV	25	DPWA Multichannel
1745 \pm 6	GOLOVATCH	19	DPWA $\gamma p \rightarrow \pi^+ \pi^- p$
1711 \pm 4	¹ HUNT	19	DPWA Multichannel
1700 \pm 10	¹ SHKLYAR	13	DPWA Multichannel
1763.8 \pm 4.6	ARNDT	06	DPWA $\pi N \rightarrow \pi N, \eta N$
1700 \pm 50	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
1710 \pm 20	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1748 \pm 5	² MOKEEV	20	DPWA $\gamma p \rightarrow \pi^+ \pi^- p$
1725 \pm 10	³ MOKEEV	20	DPWA $\gamma p \rightarrow \pi^+ \pi^- p$
1690 \pm 30	SOKHOYAN	15A	DPWA Multichannel
1720 \pm 5	¹ SHRESTHA	12A	DPWA Multichannel
1720 \pm 18	BATINIC	10	DPWA $\pi N \rightarrow N\pi, N\eta$
1705 \pm 10	PENNER	02C	DPWA Multichannel
1716 \pm 112	VRANA	00	DPWA Multichannel

¹ Statistical error only.² State a) of two states seen by the CLAS collaboration.³ State b) of two states seen by the CLAS collaboration.

N(1720) BREIT-WIGNER WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
150 to 400 (\approx 250) OUR ESTIMATE			
180 \pm 25	SARANTSEV 25	DPWA	Multichannel
116 \pm 27	GOLOVATCH 19	DPWA	$\gamma p \rightarrow \pi^+ \pi^- p$
229 \pm 22	¹ HUNT 19	DPWA	Multichannel
152 \pm 2	¹ SHKLYAR 13	DPWA	Multichannel
210 \pm 22	ARNDT 06	DPWA	$\pi N \rightarrow \pi N, \eta N$
125 \pm 70	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$
190 \pm 30	HOEHLER 79	IPWA	$\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
114 \pm 6	² MOKEEV 20	DPWA	$\gamma p \rightarrow \pi^+ \pi^- p$
120 \pm 6	³ MOKEEV 20	DPWA	$\gamma p \rightarrow \pi^+ \pi^- p$
420 \pm 80	SOKHOYAN 15A	DPWA	Multichannel
200 \pm 20	¹ SHRESTHA 12A	DPWA	Multichannel
244 \pm 28	BATINIC 10	DPWA	$\pi N \rightarrow N\pi, N\eta$
237 \pm 73	PENNER 02C	DPWA	Multichannel
121 \pm 39	VRANA 00	DPWA	Multichannel

¹ Statistical error only.

² State a) of two states seen by the CLAS collaboration.

³ State b) of two states seen by the CLAS collaboration.

N(1720) DECAY MODES

The following branching fractions are our estimates, not fits or averages.

Mode	Fraction (Γ_i/Γ)
Γ_1 $N\pi$	8–14 %
Γ_2 $N\eta$	1–5 %
Γ_3 $N\omega$	12–40 %
Γ_4 ΛK	4–19 %
Γ_5 $N\pi\pi$	>50 %
Γ_6 $\Delta(1232)\pi$	47–89 %
Γ_7 $\Delta(1232)\pi, P\text{-wave}$	47–77 %
Γ_8 $\Delta(1232)\pi, F\text{-wave}$	<12 %
Γ_9 $N\rho$	(29 \pm 8) %
Γ_{10} $N\rho, S=1/2$	1–2 %
Γ_{11} $N\rho, S=3/2, P\text{-wave}$	(17 \pm 6) %
Γ_{12} $N\sigma$	2–14 %
Γ_{13} $N(1440)\pi$	<2 %
Γ_{14} $N(1520)\pi, S\text{-wave}$	1–5 %
Γ_{15} $N(1535)\pi$	(4.0 \pm 2.0) %
Γ_{16} $p\gamma$	0.05–0.25 %
Γ_{17} $p\gamma, \text{helicity}=1/2$	0.05–0.15 %
Γ_{18} $p\gamma, \text{helicity}=3/2$	0.002–0.16 %

Γ_{19}	$n\gamma$	0.0–0.016 %
Γ_{20}	$n\gamma$, helicity=1/2	0.0–0.01 %
Γ_{21}	$n\gamma$, helicity=3/2	0.0–0.015 %

$N(1720)$ BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$					Γ_1/Γ
VALUE (%)	DOCUMENT ID	TECN	COMMENT		
8 to 14 (≈ 11) OUR ESTIMATE					
13 ± 5	SEIFEN	25	DPWA	Multichannel	
18 ± 2	¹ HUNT	19	DPWA	Multichannel	
17 ± 2	¹ SHKLYAR	13	DPWA	Multichannel	
9.4 ± 0.5	ARNDT	06	DPWA	$\pi N \rightarrow \pi N, \eta N$	
10 ± 4	CUTKOSKY	80	IPWA	$\pi N \rightarrow \pi N$	
14 ± 3	HOEHLER	79	IPWA	$\pi N \rightarrow \pi N$	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
11 ± 4	SOKHOYAN	15A	DPWA	Multichannel	
13.6 ± 0.6	¹ SHRESTHA	12A	DPWA	Multichannel	
18 ± 3	BATINIC	10	DPWA	$\pi N \rightarrow N\pi, N\eta$	
17 ± 2	PENNER	02C	DPWA	Multichannel	
5 ± 5	VRANA	00	DPWA	Multichannel	

¹Statistical error only.

$\Gamma(N\eta)/\Gamma_{\text{total}}$					Γ_2/Γ
VALUE (%)	DOCUMENT ID	TECN	COMMENT		
1 to 5 (≈ 3) OUR ESTIMATE					
3 ± 2	MUELLER	20	DPWA	Multichannel	
3.8 ± 0.5	¹ HUNT	19	DPWA	Multichannel	
< 1	SHKLYAR	13	DPWA	Multichannel	
3 ± 2	ANISOVICH	12A	DPWA	Multichannel	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
< 1	¹ SHRESTHA	12A	DPWA	Multichannel	
0 ± 1	BATINIC	10	DPWA	$\pi N \rightarrow N\pi, N\eta$	
10 ± 7	THOMA	08	DPWA	Multichannel	
0.2 ± 0.2	PENNER	02C	DPWA	Multichannel	
4 ± 1	VRANA	00	DPWA	Multichannel	

¹Statistical error only.

$\Gamma(N\omega)/\Gamma_{\text{total}}$					Γ_3/Γ
VALUE (%)	DOCUMENT ID	TECN	COMMENT		
26 ± 14	DENISENKO	16	DPWA	Multichannel	

$\Gamma(\Lambda K)/\Gamma_{\text{total}}$					Γ_4/Γ
VALUE (%)	DOCUMENT ID	TECN	COMMENT		
4–19 % OUR ESTIMATE					
16 ± 3	¹ HUNT	19	DPWA	Multichannel	
4.3 ± 0.4	SHKLYAR	05	DPWA	Multichannel	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
2.8 ± 0.4	¹ SHRESTHA	12A	DPWA	Multichannel	
12 ± 9	THOMA	08	DPWA	Multichannel	

9 ± 3

PENNER 02C DPWA Multichannel

¹Statistical error only. $\Gamma(N\pi\pi)/\Gamma_{\text{total}}$ Γ_5/Γ VALUE (%)DOCUMENT IDTECNCOMMENT**>50 % OUR ESTIMATE**

84 ± 16

GOLOVATCH 19 DPWA $\gamma p \rightarrow \pi^+ \pi^- p$ $\Gamma(\Delta(1232)\pi)/\Gamma_{\text{total}}$ Γ_6/Γ VALUE (%)DOCUMENT IDTECNCOMMENT**20 ± 7**

SARANTSEV 25 DPWA Multichannel

• • • We do not use the following data for averages, fits, limits, etc. • • •

45 ± 8

¹ MOKEEV 20 DPWA $\gamma p \rightarrow \pi^+ \pi^- p$

54 ± 8

² MOKEEV 20 DPWA $\gamma p \rightarrow \pi^+ \pi^- p$ ¹State a) of two states seen by the CLAS collaboration.²State b) of two states seen by the CLAS collaboration. $\Gamma(\Delta(1232)\pi, P\text{-wave})/\Gamma_{\text{total}}$ Γ_7/Γ VALUE (%)DOCUMENT IDTECNCOMMENT

9 ± 5

SARANTSEV 25 DPWA Multichannel

15 ± 7

SEIFEN 25 DPWA Multichannel

• • • We do not use the following data for averages, fits, limits, etc. • • •

62 ± 15

SOKHOYAN 15A DPWA Multichannel

 $\Gamma(\Delta(1232)\pi, F\text{-wave})/\Gamma_{\text{total}}$ Γ_8/Γ VALUE (%)DOCUMENT IDTECNCOMMENT

11 ± 5

SARANTSEV 25 DPWA Multichannel

6 ± 6

SEIFEN 25 DPWA Multichannel

• • • We do not use the following data for averages, fits, limits, etc. • • •

6 ± 6

SOKHOYAN 15A DPWA Multichannel

 $\Gamma(N\rho)/\Gamma_{\text{total}}$ Γ_9/Γ VALUE (%)DOCUMENT IDTECNCOMMENT**29 ± 8**

SARANTSEV 25 DPWA Multichannel

• • • We do not use the following data for averages, fits, limits, etc. • • •

38 ± 8

¹ MOKEEV 20 DPWA $\gamma p \rightarrow \pi^+ \pi^- p$

7 ± 3

² MOKEEV 20 DPWA $\gamma p \rightarrow \pi^+ \pi^- p$ ¹State a) of two states seen by the CLAS collaboration.²State b) of two states seen by the CLAS collaboration. $\Gamma(N\rho, S=1/2)/\Gamma_{\text{total}}$ Γ_{10}/Γ VALUE (%)DOCUMENT IDTECNCOMMENT

12 ± 5

SARANTSEV 25 DPWA Multichannel

1.4 ± 0.5

¹ SHRESTHA 12A DPWA Multichannel

• • • We do not use the following data for averages, fits, limits, etc. • • •

91 ± 1

VRANA 00 DPWA Multichannel

¹Statistical error only.

$\Gamma(N\rho, S=3/2, P\text{-wave})/\Gamma_{\text{total}}$ Γ_{11}/Γ

VALUE (%)	DOCUMENT ID	TECN	COMMENT
17±6	SARANTSEV 25	DPWA	Multichannel

$\Gamma(N\sigma)/\Gamma_{\text{total}}$ Γ_{12}/Γ

VALUE (%)	DOCUMENT ID	TECN	COMMENT
25±6	SARANTSEV 25	DPWA	Multichannel
20±10	SEIFEN 25	DPWA	Multichannel
••• We do not use the following data for averages, fits, limits, etc. •••			
8±6	SOKHOYAN 15A	DPWA	Multichannel

$\Gamma(N(1440)\pi)/\Gamma_{\text{total}}$ Γ_{13}/Γ

VALUE (%)	DOCUMENT ID	TECN	COMMENT
6±5	SEIFEN 25	DPWA	Multichannel
••• We do not use the following data for averages, fits, limits, etc. •••			
<2	SOKHOYAN 15A	DPWA	Multichannel

$\Gamma(N(1520)\pi, S\text{-wave})/\Gamma_{\text{total}}$ Γ_{14}/Γ

VALUE (%)	DOCUMENT ID	TECN	COMMENT
7±3	SEIFEN 25	DPWA	Multichannel
••• We do not use the following data for averages, fits, limits, etc. •••			
3±2	SOKHOYAN 15A	DPWA	Multichannel

$\Gamma(N(1535)\pi)/\Gamma_{\text{total}}$ Γ_{15}/Γ

VALUE (%)	DOCUMENT ID	TECN	COMMENT
4±2	SEIFEN 25	DPWA	Multichannel

$N(1720)$ PHOTON DECAY AMPLITUDES AT THE POLE

$N(1720) \rightarrow p\gamma$, helicity-1/2 amplitude $A_{1/2}$

MODULUS ($\text{GeV}^{-1/2}$)	PHASE ($^\circ$)	DOCUMENT ID	TECN	COMMENT
0.100±0.025	-5 ± 30	SARANTSEV 25	DPWA	Multichannel
0.039±0.004	60 ± 5	ROENCHEN 22	DPWA	Multichannel
••• We do not use the following data for averages, fits, limits, etc. •••				
0.039	5.3	ROENCHEN 15A	DPWA	Multichannel
0.115±0.045	0 ± 35	SOKHOYAN 15A	DPWA	Multichannel

$N(1720) \rightarrow p\gamma$, helicity-3/2 amplitude $A_{3/2}$

MODULUS ($\text{GeV}^{-1/2}$)	PHASE ($^\circ$)	DOCUMENT ID	TECN	COMMENT
0.045±0.020	120 ± 30	SARANTSEV 25	DPWA	Multichannel
-0.025±0.004	-5.7 ± 7	ROENCHEN 22	DPWA	Multichannel
••• We do not use the following data for averages, fits, limits, etc. •••				
0.032	66	ROENCHEN 15A	DPWA	Multichannel
0.140±0.040	65 ± 35	SOKHOYAN 15A	DPWA	Multichannel

$N(1720) \rightarrow n\gamma$, helicity-1/2 amplitude $A_{1/2}$

MODULUS ($\text{GeV}^{-1/2}$)	PHASE ($^\circ$)	DOCUMENT ID	TECN	COMMENT
-0.025 ^{+0.015} _{-0.040}	-75 ± 35	ANISOVICH 17E	DPWA	Multichannel

$N(1720) \rightarrow n\gamma$, helicity-3/2 amplitude $A_{3/2}$

<u>MODULUS ($\text{GeV}^{-1/2}$)</u>	<u>PHASE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.100 ± 0.035	-80 ± 35	ANISOVICH	17E	DPWA Multichannel

 $N(1720)$ BREIT-WIGNER PHOTON DECAY AMPLITUDES **$N(1720) \rightarrow p\gamma$, helicity-1/2 amplitude $A_{1/2}$**

<u>VALUE ($\text{GeV}^{-1/2}$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.080 to 0.120 (≈ 0.100) OUR ESTIMATE			
0.100 ± 0.025	SARANTSEV 25	DPWA	Multichannel
0.0809 ± 0.0115	GOLOVATCH 19	DPWA	$\gamma p \rightarrow \pi^+ \pi^- p$
0.068 ± 0.004	¹ HUNT 19	DPWA	Multichannel
-0.065 ± 0.002	¹ SHKLYAR 13	DPWA	Multichannel
0.095 ± 0.002	WORKMAN 12A	DPWA	$\gamma N \rightarrow N\pi$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
0.115 ± 0.045	SOKHOYAN 15A	DPWA	Multichannel
0.057 ± 0.003	¹ SHRESTHA 12A	DPWA	Multichannel
0.073	DRECHSEL 07	DPWA	$\gamma N \rightarrow \pi N$
0.097 ± 0.003	DUGGER 07	DPWA	$\gamma N \rightarrow \pi N$
-0.053	PENNER 02D	DPWA	Multichannel

¹Statistical error only. **$N(1720) \rightarrow p\gamma$, helicity-3/2 amplitude $A_{3/2}$**

<u>VALUE ($\text{GeV}^{-1/2}$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
-0.041 ± 0.020	SARANTSEV 25	DPWA	Multichannel
-0.034 ± 0.0076	GOLOVATCH 19	DPWA	$\gamma p \rightarrow \pi^+ \pi^- p$
0.028 ± 0.003	¹ HUNT 19	DPWA	Multichannel
0.035 ± 0.002	¹ SHKLYAR 13	DPWA	Multichannel
-0.048 ± 0.002	WORKMAN 12A	DPWA	$\gamma N \rightarrow N\pi$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
0.135 ± 0.040	SOKHOYAN 15A	DPWA	Multichannel
-0.019 ± 0.002	¹ SHRESTHA 12A	DPWA	Multichannel
-0.011	DRECHSEL 07	DPWA	$\gamma N \rightarrow \pi N$
-0.039 ± 0.003	DUGGER 07	DPWA	$\gamma N \rightarrow \pi N$
0.027	PENNER 02D	DPWA	Multichannel

¹Statistical error only. **$N(1720) \rightarrow n\gamma$, helicity-1/2 amplitude $A_{1/2}$**

<u>VALUE ($\text{GeV}^{-1/2}$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
-0.064 ± 0.006	¹ HUNT 19	DPWA	Multichannel
$-0.028^{+0.015}_{-0.040}$	ANISOVICH 17E	DPWA	Multichannel
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
-0.080 ± 0.050	ANISOVICH 13B	DPWA	Multichannel
-0.002 ± 0.001	¹ SHRESTHA 12A	DPWA	Multichannel
-0.003	DRECHSEL 07	DPWA	$\gamma N \rightarrow \pi N$
-0.004	PENNER 02D	DPWA	Multichannel

¹Statistical error only.

$N(1720) \rightarrow n\gamma$, helicity-3/2 amplitude $A_{3/2}$

VALUE (GeV ^{-1/2})	DOCUMENT ID	TECN	COMMENT
-0.004±0.006	¹ HUNT	19	DPWA Multichannel
-0.140±0.065	ANISOVICH	13B	DPWA Multichannel
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
-0.001±0.002	¹ SHRESTHA	12A	DPWA Multichannel
-0.031	DRECHSEL	07	DPWA $\gamma N \rightarrow \pi N$
0.003	PENNER	02D	DPWA Multichannel
¹ Statistical error only.			

 $N(1720)$ REFERENCESFor early references, see Physics Letters **111B** 1 (1982).

SARANTSEV	25	PR C112 015202	A.V. Sarantsev <i>et al.</i>	(Bonn-Gatchina Collab.)
SEIFEN	25	EPJ A61 173	T. Seifen <i>et al.</i>	(CBELSA/TAPS Collab.)
ROENCHEN	22	EPJ A58 229	D. Roenchen <i>et al.</i>	(JULI, GWU, BONN+)
MOKEEV	20	PL B805 135457	V.I. Mokeev <i>et al.</i>	(CLAS Collab.)
MUELLER	20	PL B803 135323	J. Mueller <i>et al.</i>	(CBELSA/TAPS Collab.)
GOLOVATCH	19	PL B788 371	E. Golovatch <i>et al.</i>	(CLAS Collab.)
HUNT	19	PR C99 055205	B.C. Hunt, D.M. Manley	
ANISOVICH	17E	PR C96 055202	A.V. Anisovich <i>et al.</i>	(BONN, PNPI, JLAB+)
DENISENKO	16	PL B755 97	I. Denisenko <i>et al.</i>	
ROENCHEN	15A	EPJ A51 70	D. Roenchen <i>et al.</i>	
SOKHOYAN	15A	EPJ A51 95	V. Sokhoyan <i>et al.</i>	(CBELSA/TAPS Collab.)
PDG	14	CP C38 070001	K. Olive <i>et al.</i>	(PDG Collab.)
SVARC	14	PR C89 045205	A. Svarc <i>et al.</i>	(RBI Zagreb, UNI Tuzla)
ANISOVICH	13B	EPJ A49 67	A.V. Anisovich <i>et al.</i>	
SHKLYAR	13	PR C87 015201	V. Shklyar, H. Lenske, U. Mosel	(GIES)
ANISOVICH	12A	EPJ A48 15	A.V. Anisovich <i>et al.</i>	(BONN, PNPI)
SHRESTHA	12A	PR C86 055203	M. Shrestha, D.M. Manley	(KSU)
WORKMAN	12A	PR C86 015202	R. Workman <i>et al.</i>	(GWU)
BATINIC	10	PR C82 038203	M. Batinic <i>et al.</i>	(ZAGR)
THOMA	08	PL B659 87	U. Thoma <i>et al.</i>	(CB-ELSA Collab.)
DRECHSEL	07	EPJ A34 69	D. Drechsel, S.S. Kamalov, L. Tiator	(MAINZ, JINR)
DUGGER	07	PR C76 025211	M. Dugger <i>et al.</i>	(JLab CLAS Collab.)
ARNDT	06	PR C74 045205	R.A. Arndt <i>et al.</i>	(GWU)
SHKLYAR	05	PR C72 015210	V. Shklyar, H. Lenske, U. Mosel	(GIES)
PENNER	02C	PR C66 055211	G. Penner, U. Mosel	(GIES)
PENNER	02D	PR C66 055212	G. Penner, U. Mosel	(GIES)
VRANA	00	PRPL 328 181	T.P. Vrana, S.A. Dytman, T.-S.H. Lee	(PITT, ANL)
HOEHLER	93	πN Newsletter 9 1	G. Hohler	(KARL)
CUTKOSKY	80	Toronto Conf. 19	R.E. Cutkosky <i>et al.</i>	(CMU, LBL) IJP
Also		PR D20 2839	R.E. Cutkosky <i>et al.</i>	(CMU, LBL) IJP
HOEHLER	79	PDAT 12-1	G. Hohler <i>et al.</i>	(KARLT) IJP
Also		Toronto Conf. 3	R. Koch	(KARLT) IJP