

$a_4(2040)$

$$I^G(J^{PC}) = 1^-(4^{++})$$

 $a_4(2040)$ MASS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
2020 ± 16 OUR AVERAGE					
2010 ± 20	¹ DONSKOV	96	GAM2	0	38 $\pi^- p \rightarrow \eta \pi^0 n$
2040 ± 30	² CLELAND	82B	SPEC	±	50 $\pi p \rightarrow K_S^0 K^\pm p$
2030 ± 50	³ CORDEN	78C	OMEG	0	15 $\pi^- p \rightarrow 3\pi n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1903 ± 10	⁴ BALDI	78	SPEC	-	10 $\pi^- p \rightarrow \rho K_S^0 K^-$

¹ From a simultaneous fit to the G_+ and G_0 wave intensities.² From an amplitude analysis.³ $J^P = 4^+$ is favored, though $J^P = 2^+$ cannot be excluded.⁴ From a fit to the Y_8^0 moment. Limited by phase space. **$a_4(2040)$ WIDTH**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
387 ± 70 OUR AVERAGE					
370 ± 80	⁵ DONSKOV	96	GAM2	0	38 $\pi^- p \rightarrow \eta \pi^0 n$
380 ± 150	⁶ CLELAND	82B	SPEC	±	50 $\pi p \rightarrow K_S^0 K^\pm p$
510 ± 200	⁷ CORDEN	78C	OMEG	0	15 $\pi^- p \rightarrow 3\pi n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
166 ± 43	⁸ BALDI	78	SPEC	-	10 $\pi^- p \rightarrow \rho K_S^0 K^-$

⁵ From a simultaneous fit to the G_+ and G_0 wave intensities.⁶ From an amplitude analysis.⁷ $J^P = 4^+$ is favored, though $J^P = 2^+$ cannot be excluded.⁸ From a fit to the Y_8^0 moment. Limited by phase space. **$a_4(2040)$ DECAY MODES**

Mode	Fraction (Γ_i/Γ)
Γ_1 $K\bar{K}$	seen
Γ_2 $\pi^+\pi^-\pi^0$	seen
Γ_3 $\eta\pi^0$	seen

 $a_4(2040)$ BRANCHING RATIOS

<u>$\Gamma(K\bar{K})/\Gamma_{\text{total}}$</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	<u>Γ_1/Γ</u>
seen	BALDI	78	SPEC	±	10 $\pi^- p \rightarrow K_S^0 K^- p$

$\Gamma(\pi^+ \pi^- \pi^0)/\Gamma_{\text{total}}$					Γ_2/Γ
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
seen	CORDEN	78C	OMEG	0	15 $\pi^- p \rightarrow 3\pi n$

$\Gamma(\eta \pi^0)/\Gamma_{\text{total}}$					Γ_3/Γ
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>	
seen	DONSKOV	96	GAM2	0	38 $\pi^- p \rightarrow \eta \pi^0 n$

$a_4(2040)$ REFERENCES

DONSKOV	96	PAN 59 982	+Inyakin, Kachanov+	(GAMS Collab.) IGJPC
		Translated from YAF 59 1027.		
CLELAND	82B	NP B208 228	+Delfosse, Dorsaz, Gloor	(DURH, GEVA, LAUS, PITT)
BALDI	78	PL 74B 413	+Bohringer, Dorsaz, Hungerbuhler+	(GEVA) JP
CORDEN	78C	NP B136 77	+Dowell, Garvey+	(BIRM, RHEL, TELA, LOWC) JP

OTHER RELATED PAPERS

DELFOSSÉ	81	NP B183 349	+Guisan, Martin, Muhlemann, Weill+	(GEVA, LAUS)
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