$a_4(2040)$

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

$a_4(2040)$ MASS

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

[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^0_8 moment. Limited by phase space.

$a_4(2040)$ WIDTH

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

[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^0_8 moment. Limited by phase space.

$a_4(2040)$ DECAY MODES

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

$a_4(2040)$ BRANCHING RATIOS

$\Gamma(K\overline{K})/\Gamma_{total}$ Γ_1/Γ

VALUE	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
seen	BALDI	78	SPEC	±	10 $\pi^- p \to K^0_S K^- p$

$\Gamma(\pi^+\pi^-\pi^0)/\Gamma_{total}$ Γ_2/Γ

VALUE	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
seen	CORDEN	78C	OMEG	0	15 $\pi^- p \rightarrow 3\pi n$

$\Gamma(\eta\pi^0)/\Gamma_{total}$ Γ_3/Γ

VALUE	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
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

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