$\overline{N}N(1100–3600)$

OMITTED FROM SUMMARY TABLE

This entry contains various high mass, unflavored structures coupled to the baryon-antibaryon system, as well as quasi-nuclear bound states below threshold.

$\overline{N}N$(1100–3600) MASSES AND WIDTHS

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

VALUE (MeV)	*DOCUMENT ID*
1100 to 3600 OUR LIMIT	

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1107±4	DAFTARI	87	DBC	0	0. $\overline{p}n \to \rho^- \pi^+ \pi^-$
111±8±15	DAFTARI	87	DBC	0	0. $\overline{p}n \to \rho^- \pi^+ \pi^-$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1167 ±7	[1] CHIBA	91	CNTR		$\overline{p}d \to \gamma X$
1191.0±9.9	[1] CHIBA	87	CNTR	0	0. $\overline{p}p \to \gamma X$
1210 ±5.0	[1,2,3,4] RICHTER	83	CNTR	0	Stopped $\overline{p}$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1325 ±5	[1] CHIBA	91	CNTR		$\overline{p}d \to \gamma X$
1329.2±7.6	[1] CHIBA	87	CNTR	0	0. $\overline{p}p \to \gamma X$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1390.9±6.3	[1] CHIBA	87	CNTR	0	0. $\overline{p}p \to \gamma X$
1395	[1,3,4,5] PAVLOPO...	78	CNTR		Stopped $\overline{p}$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
∼ 1410	BETTINI	66	DBC	0	0. $\overline{p}N \to 5\pi$
∼ 100	BETTINI	66	DBC	0	0. $\overline{p}N \to 5\pi$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1468± 6	[6] BRIDGES	86B	DBC	0	0. $\overline{p}N \to 2\pi^- \pi^+ \pi^0$
88±18	[6] BRIDGES	86B	DBC	0	0. $\overline{p}N \to 2\pi^- \pi^+ \pi^0$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1512 ± 7	[1] CHIBA	91	CNTR		$\overline{p}d \to \gamma X$
1523.8± 3.6	[1] CHIBA	87	CNTR	0	0. $\overline{p}p \to \gamma X$
1522 ± 7	[6] BRIDGES	86B	DBC	0	0. $\overline{p}N \to 2\pi^- \pi^+$
59 ±12	[6] BRIDGES	86B	DBC	0	0. $\overline{p}N \to 2\pi^- \pi^+$

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1577.8 ± 3.4	[1]	CHIBA	87	CNTR	0	0. $\overline{p}p \rightarrow \gamma X$
1594 ± 9	[6]	BRIDGES	86B	DBC	−	0. $\overline{p}N \rightarrow 2\pi^-\pi^+\pi^0$
81 ± 12	[6]	BRIDGES	86B	DBC	−	0. $\overline{p}N \rightarrow 2\pi^-\pi^+\pi^0$

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1633.6 ± 4.1	[1]	CHIBA	87	CNTR	0	0. $\overline{p}p \rightarrow \gamma X$
$1637.1^{+5.6}_{-7.3}$		ADIELS	84	CNTR		$\overline{p}$He

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1638 ± 3.0	[1,2,3,4]	RICHTER	83	CNTR	0	Stopped $\overline{p}$

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*COMMENT*
$1644.0^{+5.6}_{-7.3}$		ADIELS	84	CNTR	$\overline{p}$He

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*COMMENT*
1646	[1,3,4,5]	PAVLOPO...	78	CNTR	Stopped $\overline{p}$

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*COMMENT*
$1687.1^{+5.0}_{-4.3}$		ADIELS	84	CNTR	$\overline{p}$He
1684	[1,3,4,5]	PAVLOPO...	78	CNTR	Stopped $\overline{p}$

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1693 ± 2	[1]	CHIBA	91	CNTR		$\overline{p}d \rightarrow \gamma X$
1694 ± 2.0	[1,2,3,4]	RICHTER	83	CNTR	0	Stopped $\overline{p}$

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1713.0 ± 2.6	[1]	CHIBA	87	CNTR	0	0. $\overline{p}p \rightarrow \gamma X$

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1731.0 ± 1.5	[1]	CHIBA	87	CNTR	0	0. $\overline{p}p \rightarrow \gamma X$

VALUE (MeV)		*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1771 ± 1.0	[1,3,4,7]	RICHTER	83	CNTR	0	Stopped $\overline{p}$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
1812.3 ± 1.2	CHIBA	97	CNTR	$\overline{p}d \rightarrow nX$
3.7 ± 1.3	CHIBA	97	CNTR	$\overline{p}d \rightarrow nX$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1856.6 ± 5	BRIDGES	86D	SPEC	0	0. $\overline{p}d \rightarrow \pi\pi N$
20 ± 5	BRIDGES	86D	SPEC	0	0. $\overline{p}d \rightarrow \pi\pi N$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
1870±10	ANTONELLI	98	SPEC		$e^+e^- \to n\overline{n}, p\overline{p}$
10± 5	ANTONELLI	98	SPEC		$e^+e^- \to n\overline{n}, p\overline{p}$
∼ 1870	[8] DALKAROV	97	RVUE	−	0.0 $\overline{p}d \to p3\pi^- 2\pi^+$
∼ 10	[8] DALKAROV	97	RVUE	−	0.0 $\overline{p}d \to p3\pi^- 2\pi^+$
1873± 2.5	BRIDGES	86D	SPEC	0	0. $\overline{p}d \to \pi\pi N$
< 5	BRIDGES	86D	SPEC	0	0. $\overline{p}d \to \pi\pi N$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
1897±17	[9] ABASHIAN	76	STRC	8 $\pi^- p \to p3\pi$
110±82	[9] ABASHIAN	76	STRC	8 $\pi^- p \to p3\pi$
1897± 1	KALOGERO...	75	DBC	$\overline{p}n$ annihilation near threshold
25± 6	KALOGERO...	75	DBC	$\overline{p}n$ annihilation near threshold

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
∼ 1920	[10] EVANGELISTA	79	OMEG	10,16 $\pi^- p \to \overline{p}p$
∼ 190	EVANGELISTA	79	OMEG	10,16 $\pi^- p \to \overline{p}p$

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
$1937.3^{+1.3}_{-0.7}$		[11] FRANKLIN	87	SPEC		0.586 $\overline{p}p$
< 3.0		[11] FRANKLIN	87	SPEC		0.586 $\overline{p}p$
1930 ± 2		[12] ASTON	80D	OMEG		$\gamma p \to p\overline{p}X$
12 ± 7		[12] ASTON	80D	OMEG		$\gamma p \to p\overline{p}X$
1940 ± 1	36	DAUM	80E	CNTR	0	93 $pp \to \overline{p}pX$
∼ 6.0		DAUM	80E	CNTR		93 $pp \to \overline{p}pX$
1949 ±10		[13] DEFOIX	80	HBC	0	$\overline{p}p \to 5\pi$
80 ±20		[13] DEFOIX	80	HBC	0	$\overline{p}p \to 5\pi$
1939 ± 2		[14] HAMILTON	80B	CNTR	0	S channel $\overline{p}p$
22 ± 6		[14] HAMILTON	80B	CNTR	0	S channel $\overline{p}p$
1935.5± 1.0		SAKAMOTO	79	HBC	0	0.37–0.73 $\overline{p}p$
2.8± 1.4		SAKAMOTO	79	HBC	0	0.37–0.73 $\overline{p}p$
1939 ± 3		BRUCKNER	77	SPEC	0	0.4–0.85 $\overline{p}p$
< 4.0		BRUCKNER	77	SPEC	0	0.4–0.85 $\overline{p}p$
1935.9± 1.0		[15] CHALOUPKA	76	HBC	0	$\overline{p}p$ total,elastic
$8.8^{+4.3}_{-3.2}$		[16] CHALOUPKA	76	HBC	0	$\overline{p}p$ total,elastic
1942 ± 5		[17] D'ANDLAU	75	HBC	0	0.175–0.750 $\overline{p}p$
57.5± 5		[18] D'ANDLAU	75	HBC	0	0.175–0.750 $\overline{p}p$
$1934.4^{+2.6}_{-1.4}$		[19] KALOGERO...	75	DBC	−	$\overline{p}N$ annihilation
11^{+11}_{-4}		[19] KALOGERO...	75	DBC	−	$\overline{p}N$ annihilation
1932 ± 2		[15] CARROLL	74	CNTR		S channel $\overline{p}p \to d$
9^{+4}_{-3}		[16] CARROLL	74	CNTR		S channel $\overline{p}p \to d$
1968		[20] BENVENUTI	71	HBC	0	0.1–0.8 $\overline{p}p$
35		[20] BENVENUTI	71	HBC	0	0.1–0.8 $\overline{p}p$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
1949±10	[21] DEFOIX	80	HBC	0	0.0–1.2 $\overline{p}p \to 5\pi$
80±20	[21] DEFOIX	80	HBC	0	0.0–1.2 $\overline{p}p \to 5\pi$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2015± 3	FERRER	99	RVUE	$\pi p \to p p \overline{p} \pi (\pi)$
2011± 7	[22] FERRER	93	OMEG	$\pi^- p \to p p \overline{p} \pi^- \pi^0$
25^{+10}_{-25}	[22] FERRER	93	OMEG	$\pi^- p \to p p \overline{p} \pi^- \pi^0$
2025	GIBBARD	79		$e^- p \to e^- p p \overline{p}$
< 30	GIBBARD	79		$e^- p \to e^- p p \overline{p}$
2020± 3	BENKHEIRI	77	OMEG	$\pi^- p \to p p \overline{p} \pi^-$
24±12	BENKHEIRI	77	OMEG	$\pi^- p \to p p \overline{p} \pi^-$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2022± 6	[23] AZOOZ	83	HYBR	+	6 $\overline{p}p \to p \overline{n} 3\pi$
14±13	[23] AZOOZ	83	HYBR	+	6 $\overline{p}p \to p \overline{n} 3\pi$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2023± 5	BODENKAMP	83	SPEC	0	$\gamma p \to \overline{p} p p$
27±12	BODENKAMP	83	SPEC	0	$\gamma p \to \overline{p} p p$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2026± 5	[23] AZOOZ	83	HYBR	−	4 $\overline{p}p \to \overline{p} n 3\pi$
20±11	[23] AZOOZ	83	HYBR	−	4 $\overline{p}p \to \overline{p} n 3\pi$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2080±10	[24] KREYMER	80	STRC	0	13 $\pi^- d \to p \overline{p} n (n)$
110±20	[24] KREYMER	80	STRC	0	13 $\pi^- d \to p \overline{p} n (n)$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2090±20	[25] KREYMER	80	STRC	13 $\pi^- d \to n p \overline{p} \pi^- p$
170±50	[25] KREYMER	80	STRC	13 $\pi^- d \to n p \overline{p} \pi^- p$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
∼ 2110	[26] EVANGELISTA	79	OMEG	10,16 $\pi^- p \to \overline{p} p$
∼ 330	[26] EVANGELISTA	79	OMEG	10,16 $\pi^- p \to \overline{p} p$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2110±10	[27] ROZANSKA	80	SPRK	18 $\pi^- p \to p \overline{p} n$
190±10	[27] ROZANSKA	80	SPRK	18 $\pi^- p \to p \overline{p} n$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2141	[28] DONALD	73	HBC	0	$\overline{p}p$ S channel
14	[28] DONALD	73	HBC	0	$\overline{p}p$ S channel

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2180±10	[29] ROZANSKA	80	SPRK	18 $\pi^- p \to p\overline{p}n$
270±10	[29] ROZANSKA	80	SPRK	18 $\pi^- p \to p\overline{p}n$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2207±13	[30] ALLES-...	67B	HBC	0	5.7 $\overline{p}p$
62±52	[30] ALLES-...	67B	HBC	0	5.7 $\overline{p}p$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2210^{+79}_{-21}	EVANGELISTA	79B	OMEG	10 $\pi^- p \to K^+ K^- n$
∼ 203	EVANGELISTA	79B	OMEG	10 $\pi^- p \to K^+ K^- n$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
∼ 2229.2	CARBONELL	93	RVUE	$\overline{p}p \to \Lambda\overline{\Lambda}$
∼ 1.8	CARBONELL	93	RVUE	$\overline{p}p \to \Lambda\overline{\Lambda}$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
∼ 2260	[31] EVANGELISTA	79	OMEG	10,16 $\pi^- p \to \overline{p}p$
∼ 440	[31] EVANGELISTA	79	OMEG	10,16 $\pi^- p \to \overline{p}p$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2307± 6	ALPER	80	CNTR	0	62 $\pi^- p \to K^+ K^- n$
245±20	ALPER	80	CNTR	0	62 $\pi^- p \to K^+ K^- n$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2231.9 ±0.1	[32] BARNES	94	SPEC	0–46 $\overline{p}p \to \overline{\Lambda}\Lambda$
0.59±0.25	[32] BARNES	94	SPEC	0–46 $\overline{p}p \to \overline{\Lambda}\Lambda$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2380±10	[33] ROZANSKA	80	SPRK	18 $\pi^- p \to p\overline{p}n$
380±20	[33] ROZANSKA	80	SPRK	18 $\pi^- p \to p\overline{p}n$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2450±10	[34] ROZANSKA	80	SPRK	18 $\pi^- p \to p\overline{p}n$
280±20	[34] ROZANSKA	80	SPRK	18 $\pi^- p \to p\overline{p}n$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2480±30	[35] CARTER	77	CNTR	0	0.7–2.4 $\overline{p}p \to \pi\pi$
210±25	[35] CARTER	77	CNTR	0	0.7–2.4 $\overline{p}p \to \pi\pi$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
∼ 2500	[36] CARTER	78B	CNTR	0	0.7–2.4 $\overline{p}p \to K^- K^+$
∼ 150	[36] CARTER	78B	CNTR	0	0.7–2.4 $\overline{p}p \to K^- K^+$

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2710±20	ROZANSKA	80	SPRK	18 $\pi^- p \to p\overline{p}n$
170±40	ROZANSKA	80	SPRK	18 $\pi^- p \to p\overline{p}n$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
2850±5	[37] BRAUN	76	DBC	−	5.5 $\overline{p}d \to N\overline{N}\pi$
< 39	[37] BRAUN	76	DBC	−	5.5 $\overline{p}d \to N\overline{N}\pi$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
3370±10	[38] ALEXANDER	72	HBC	0	6.94 $\overline{p}p$
150±40	[38] ALEXANDER	72	HBC	0	6.94 $\overline{p}p$

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
3600±20	[38] ALEXANDER	72	HBC	0	6.94 $\overline{p}p$
140±20	[38] ALEXANDER	72	HBC	0	6.94 $\overline{p}p$

[1] Not seen by GRAF 91.
[2] Not seen by CHIBA 88, ANGELOPOULOS 86, ADIELS 86.
[3] They looked for radiative transitions to bound $p\overline{p}$ states, mono-energetic γ rays detected.
[4] Observed widths consistent with experimental resolution.
[5] Not seen by ADIELS 86.
[6] From analysis of difference of π^- and π^+ spectra.
[7] Not seen by CHIBA 88, ANGELOPOULOS 86.
[8] From a phenomenological analysis of ASTERIX data.
[9] Produced backwards.
[10] $I(J^P) = 1(1^-)$ from a mass dependent partial-wave analysis taking solution A.
[11] From reanalysis of data from JASTRZEMBSKI 81.
[12] Not seen by BUSENITZ 89.
[13] From energy dependence of 5π cross section. $I^G = 1^-$ from observation of $\omega\rho$ decay. $P = +$ and $J >1$. $a_2(1320)\pi\pi$ also seen.
[14] $I = 0$ favored, $J = 0$ or 1, seen in total $\overline{p}p$ total cross section. Primarily from annihilation reactions. Not seen in $\overline{p}d$ total and annihilation cross sections.
[15] Narrow bump seen in total $\overline{p}p$, $\overline{p}d$ cross sections. Isospin uncertain. Not seen in $\overline{p}p$ charge exchange by ALSTON-GARNJOST 75, CHALOUPKA 76. Integrated cross section three times larger than BRUCKNER 77.
[16] Narrow bump seen in total $\overline{p}p$, $\overline{p}d$ cross sections. Isospin uncertain. Not seen in $\overline{p}p$ charge exchange by ALSTON-GARNJOST 75, CHALOUPKA 76. Integrated cross section three times larger than BRUCKNER 77. Not seen by CLOUGH 84.
[17] From energy dependence of far backward elastic scattering. Some indication of additional structure.
[18] From energy dependence of far backward elastic scattering. Some indication of additional structure.
[19] Not seen by ALBERI 79 with comparable statistics.
[20] Seen as a bump in the $\overline{p}p \to K^0_S K^0_L$ cross section with $J^{PC} = 1^{--}$.
[21] Isospin 1 favored.
[22] Not seen by AJALTOUNI 82, ARMSTRONG 79, BUZZO 97.
[23] Not seen by BIONTA 80, CARROLL 80, HAMILTON 80, BANKS 81, CHUNG 81, BARNETT 83.
[24] Neutron spectator. See also $np\overline{p}\pi^-(p)$ channel following.
[25] Proton spectator. See also $p\overline{p}n(n)$ channel above.
[26] $I(J^P) = 1(3^-)$ from a mass dependent partial-wave analysis taking solution A.
[27] $I(J^P) = 1(3^-)$ from amplitude analysis assuming one-pion exchange.

[28] Seen in final state $\omega\pi^+\pi^-$.
[29] $I(J^P) = 0(2^+)$ from amplitude analysis assuming one-pion exchange.
[30] ALLES-BORELLI 67B see neutral mode only $\pi^+\pi^-\pi^0$.
[31] $I(J^P) = 0(4^+)$ from a mass dependent partial-wave analysis taking solution A.
[32] Supersedes CARBONELL 93.
[33] $I(J^P) = 0(4^+)$ from amplitude analysis assuming one-pion exchange.
[34] $I(J^P) = 1(5^-)$ from amplitude analysis assuming one-pion exchange.
[35] $I(J^P) = 1(5^-)$ from amplitude analysis of $\overline{p}p \rightarrow \pi\pi$.
[36] I=0,1 $J^P = 5^-$ from Barrelet-zero analysis.
[37] Decays to $\overline{N}N$ and $\overline{N}N\pi$. Not seen by BARNETT 83.
[38] Decays to $4\pi^+4\pi^-$.

$\overline{N}N$(1100–3600) REFERENCES

FERRER	99	EPJ C10 249	A. Ferrer *et al.*	
ANTONELLI	98	NP B517 3	A. Antonelli *et al.*	(FENICE Collab.)
BUZZO	97	ZPHY C76 475	A. Buzzo *et al.*	(JETSET Collab.)
CHIBA	97	PR D55 40	M. Chiba *et al.*	(FUKI, INUS, KEK, SANG+)
DALKAROV	97	PL B392 229	O.D. Dalkarov *et al.*	(LEBD)
BARNES	94	PL B331 203	P.D. Barnes *et al.*	(PS185 Collab.)
CARBONELL	93	PL B306 407	J. Carbonell, K.V. Protasov, O.D. Dalkarov	(ISNG+)
FERRER	93	NP A558 191c	A. Ferrer, A.A. Grigorian	(WA56 Collab.)
CHIBA	91	PR D44 1933	M. Chiba *et al.*	(FUKI, KEK, SANG, OSAK+)
GRAF	91	PR D44 1945	N.A. Graf *et al.*	(UCI, PENN, NMSU, KARLK+)
BUSENITZ	89	PR D40 1	J.K. Busenitz *et al.*	(ILL, FNAL)
CHIBA	88	PL B202 447	M. Chiba, K. Doi	(FUKI, INUS, KEK, SANG, OSAK+)
CHIBA	87	PR D36 3321	M. Chiba *et al.*	(FUKI, INUS, KEK, SANG+)
DAFTARI	87	PRL 58 859	I.K. Daftari *et al.*	(SYRA)
FRANKLIN	87	PL B184 81	J. Franklin	
ADIELS	86	PL B182 405	L. Adiels *et al.*	(STOH, BASL, LASL, THES+)
ANGELOPO...	86	PL B178 441	A. Angelopoulos *et al.*	(ATHU, UCI, KARLK+)
BRIDGES	86B	PRL 56 215	D.L. Bridges *et al.*	(SYRA, CASE)
BRIDGES	86D	PL B180 313	D.L. Bridges *et al.*	(SYRA, BNL, CASE+)
ADIELS	84	PL 138B 235	L. Adiels *et al.*	(BASL, KARLK, KARLE, STOH+)
CLOUGH	84	PL 146B 299	A.S. Clough *et al.*	(SURR, LOQM, ANIK+)
AZOOZ	83	PL 122B 471	F. Azooz, I. Butterworth	(LOIC, RHEL, SACL+)
BARNETT	83	PR D27 493	B. Barnett *et al.*	(JHU)
BODENKAMP	83	PL 133B 275	J. Bodenkamp *et al.*	(KARLK, KARLE, DESY)
RICHTER	83	PL 126B 284	B. Richter, L. Adiels	(BASL, KARLK, KARLE, STOH+)
AJALTOUNI	82	NP B209 301	Z. Ajaltouni *et al.*	(CERN, NEUC+)
BANKS	81	PL 100B 191	A.D. Banks *et al.*	(LIVP, CERN)
CHUNG	81	PRL 46 395	S.U. Chung *et al.*	(BNL, BRAN, CINC+)
JASTRZEM...	81	PR D23 2784	E. Jastrzembski *et al.*	(TEMP, UCI, UNM)
ALPER	80	PL 94B 422	B. Alper *et al.*	(AMST, CERN, CRAC, MPIM+)
ASTON	80D	PL 93B 517	D. Aston	(BONN, CERN, EPOL, GLAS, LANC+)
BIONTA	80	PRL 44 909	R.M. Bionta *et al.*	(BNL, CMU, FNAL+)
CARROLL	80	PRL 44 1572	A.S. Carroll *et al.*	(BNL, PRIN)
DAUM	80E	PL 90B 475	C. Daum *et al.*	(AMST, CERN, CRAC, MPIM+)
DEFOIX	80	NP B162 12	C. Defoix *et al.*	(CDEF, PISA)
HAMILTON	80	PRL 44 1179	R.P. Hamilton *et al.*	(LBL, BNL, MTHO)
HAMILTON	80B	PRL 44 1182	R.P. Hamilton *et al.*	(LBL, BNL, MTHO)
KREYMER	80	PR D22 36	A.E. Kreymer *et al.*	(IND, PURD, SLAC+)
ROZANSKA	80	NP B162 505	M. Rozanska *et al.*	(MPIM, CERN)
ALBERI	79	PL 83B 247	G. Alberi *et al.*	(TRST, CERN, IFRJ)
ARMSTRONG	79	PL B85 304	T.A. Armstrong *et al.*	(DESY, GLAS)
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CARTER	78B	NP B141 467	A.A. Carter	(LOQM)
PAVLOPO...	78	PL 72B 415	P. Pavlopoulos *et al.*	(KARLK, KARLE, BASL+)
BENKHEIRI	77	PL 68B 483	P. Benkheiri *et al.*	(CERN, CDEF, EPOL+)
BRUCKNER	77	PL 67B 222	W. Bruckner *et al.*	(MPIH, HEIDP, CERN)
CARTER	77	PL 67B 117	A.A. Carter *et al.*	(LOQM, RHEL) JP
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