$D^{\pm}$ REFERENCES

BALEST 94 PRL 72 2328 +Cho, Daoudi, Ford+ (CLEO Collab.)
FRABETTI 94D PL B323 459 +Cheung, Cumalat+ (FNAL E687 Collab.)
PDG 94 PR D50 1173 Montanet+ (CERN, LBL, BOST, IFIC+)
ABE 93E PL B313 288 +Amako, Arai, Arima, Asano+ (VENUS Collab.)
ADAMOVICH 93 PL B305 177 +Alexandrov, Antinori+ (CERN WA82 Collab.)
AKERIB 93 PRL 71 3070 +Barish, Chadha, Chan+ (CLEO Collab.)
ALAM 93 PRL 71 1311 +Kim, Nemati, O'Neill+ (CLEO Collab.)
ANJOS 93 PR D48 56 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
BEAN 93C PL B317 647 +Gronberg, Kutschke, Menary+ (CLEO Collab.)
FRABETTI 93E PL B307 262 +Grim, Paolone, Yager+ (FNAL E687 Collab.)
KODAMA 93B PL B313 260 +Ushida, Mokhtarani+ (FNAL E653 Collab.)
KODAMA 93C PL B316 455 +Ushida, Mokhtarani+ (FNAL E653 Collab.)
SELEN 93 PRL 71 1973 +Sadoff, Ammar, Ball+ (CLEO Collab.)
ALBRECHT 92B ZPHY C53 361 +Ehrlichmann, Hamacher, Krueger+ (ARGUS Collab.)
ALBRECHT 92F PL B278 202 +Ehrlichmann, Hamacher+ (ARGUS Collab.)
ANJOS 92 PR D45 R2177 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
ANJOS 92C PR D46 1941 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
ANJOS 92D PRL 69 2892 +Appel, Bean, Bediaga+ (FNAL E691 Collab.)
BARLAG 92C ZPHY C55 383 +Becker, Bozek, Boehringer+ (ACCMOR Collab.)
Also 90D ZPHY C48 29 Barlag, Becker, Boehringer, Bosman+ (ACCMOR Collab.)
COFFMAN 92B PR D45 2196 +DeJongh, Dubois, Eigen+ (Mark III Collab.)
DAOUDI 92 PR D45 3965 +Ford, Johnson, Lingel+ (CLEO Collab.)
FRABETTI 92 PL B281 167 +Bogart, Cheung, Culy+ (FNAL E687 Collab.)
KODAMA 92 PL B274 246 +Ushida, Mokhtarani+ (FNAL E653 Collab.)
KODAMA 92C PL B286 187 +Ushida, Mokhtarani+ (FNAL E653 Collab.)
ADAMOVICH 91 PL B268 142 +Alexandrov, Antinori, Barberis+ (WA82 Collab.)
ALBRECHT 91 PL B255 634 +Ehrlichmann, Hamacher, Krueger+ (ARGUS Collab.)
ALVAREZ 91 PL B255 639 +Barate, Bloch, Bonamy+ (CERN NA14/2 Collab.)
ALVAREZ 91B ZPHY C50 11 +Barate, Bloch, Bonamy+ (CERN NA14/2 Collab.)
AMMAR 91 PR D44 3383 +Baringer, Coppage, Davis+ (CLEO Collab.)
ANJOS 91B PR D43 R2063 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
ANJOS 91C PRL 67 1507 +Appel, Bean, Bracker+ (FNAL-TPS Collab.)
BAI 91 PRL 66 1011 +Bolton, Brown, Bunnell+ (Mark III Collab.)
COFFMAN 91 PL B263 135 +DeJongh, Dubois, Eigen, Hitlin+ (Mark III Collab.)
FRABETTI 91 PL B263 584 +Bogart, Cheung, Culy+ (FNAL E687 Collab.)
ALVAREZ 90 ZPHY C47 539 +Barate, Bloch, Bonamy+ (CERN NA14/2 Collab.)
ALVAREZ 90C PL B246 261 +Barate, Bloch, Bonamy+ (CERN NA14/2 Collab.)
ANJOS 90C PR D41 2705 +Appel, Bean+ (FNAL E691 Collab.)
ANJOS 90D PR D42 2414 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
ANJOS 90E PRL 65 2630 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
BARLAG 90C ZPHY C46 563 +Becker, Boehringer, Bosman+ (ACCMOR Collab.)
WEIR 90B PR D41 1384 +Klein, Abrams, Adolphsen, Akerlof+ (Mark II Collab.)
ANJOS 89 PRL 62 125 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
ANJOS 89B PRL 62 722 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
ANJOS 89E PL B223 267 +Appel, Bean, Bracker+ (FNAL E691 Collab.)
ADLER 88B PRL 60 1375 +Becker, Blaylock+ (Mark III Collab.)
ADLER 88C PRL 60 89 +Becker, Blaylock+ (Mark III Collab.)
ALBRECHT 88I PL B210 267 +Boeckmann, Glaeser+ (ARGUS Collab.)
ANJOS 88 PRL 60 897 +Appel+ (FNAL E691 Collab.)
AOKI 88 PL B209 113 +Arnold, Baroni+ (WA75 Collab.)
HAAS 88 PRL 60 1614 +Hempstead, Jensen+ (CLEO Collab.)
ONG 88 PRL 60 2587 +Weir, Abrams, Amidei+ (Mark II Collab.)
RAAB 88 PR D37 2391 +Anjos, Appel, Bracker+ (FNAL E691 Collab.)
ADAMOVICH 87 EPL 4 887 +Alexandrov, Bolta+ (Photon Emulsion Collab.)
ADLER 87 PL B196 107 +Becker, Blaylock, Bolton+ (Mark III Collab.)
AGUILAR-... 87D PL B193 140 Aguilar-Benitez, Allison+ (LEBC-EHS Collab.)
Also 88B ZPHY C40 321 Aguilar-Benitez, Allison, Bailly+ (LEBC-EHS Collab.)
AGUILAR-... 87E ZPHY C36 551 Aguilar-Benitez, Allison+ (LEBC-EHS Collab.)
Also 88B ZPHY C40 321 Aguilar-Benitez, Allison, Bailly+ (LEBC-EHS Collab.)
AGUILAR-... 87F ZPHY C36 559 Aguilar-Benitez, Allison+ (LEBC-EHS Collab.)
Also 88 ZPHY C38 520 erratum
BARLAG 87B ZPHY C37 17 +Becker, Boehringer, Bosman+ (ACCMOR Collab.)
BARTEL 87 ZPHY C33 339 +Becker, Felst, Haidt+ (JADE Collab.)
CSORNA 87 PL B191 318 +Mestayer, Panvini, Word+ (CLEO Collab.)
PALKA 87B ZPHY C35 151 +Bailey, Becker+ (ACCMOR Collab.)
ABE 86 PR D33 1 + (SLAC Hybrid Facility Photon Collab.)
AGUILAR-... 86B ZPHY C31 491 Aguilar-Benitez, Allison+ (LEBC-EHS Collab.)
BALTRUSAIT... 86E PRL 56 2140 Baltrusaitis, Becker, Blaylock, Brown+ (Mark III Collab.)
PAL 86 PR D33 2708 +Atwood, Barish, Bonneaud+ (DELCO Collab.)
AIHARA 85 ZPHY C27 39 +Alston-Garnjost, Badtke, Bakken+ (TPC Collab.)
BALTRUSAIT... 85B PRL 54 1976 Baltrusaitis, Becker, Blaylock, Brown+ (Mark III Collab.)
BALTRUSAIT... 85E PRL 55 150 Baltrusaitis, Becker, Blaylock, Brown+ (Mark III Collab.)
BARTEL 85J PL 163B 277 +Becker, Cords, Felst+ (JADE Collab.)
ADAMOVICH 84 PL 140B 119 +Alexandrov, Bolta, Bravo+ (CERN WA58 Collab.)
ALTHOFF 84G ZPHY C22 219 +Braunschweig, Kirschfink+ (TASSO Collab.)
ALTHOFF 84J PL 146B 443 +Branschweig, Kirschfink+ (TASSO Collab.)
DERRICK 84 PRL 53 1971 +Fernandez, Fries, Hyman+ (HRS Collab.)
KOOP 84 PRL 52 970 +Sakuda, Atwood, Baillon+ (DELCO Collab.)
PARTRIDGE 84 Thesis CALT-68-1150 (Crystal Ball Collab.)
AGUILAR-... 83B PL 123B 98 Aguilar-Benitez, Allison+ (LEBC-EHS Collab.)
AUBERT 83 NP B213 31 +Bassompierre, Becks, Best+ (EMC Collab.)
PARTRIDGE 81 PRL 47 760 +Peck, Porter, Gu+ (Crystal Ball Collab.)
SCHINDLER 81 PR D24 78 +Alam, Boyarski, Breidenbach+ (Mark II Collab.)
TRILLING 81 PRPL 75 57 (LBL, UCB) J
BACINO 80 PRL 45 329 +Ferguson+ (UCLA, SLAC, STAN, UCI, STON)
SCHINDLER 80 PR D21 2716 +Siegrist, Alam, Boyarski+ (Mark II Collab.)
ZHOLENTZ 80 PL 96B 214 +Kurdadze, Lelchuk, Mishnev+ (NOVO)
Also 81 SJNP 34 814 Zholentz, Kurdadze, Lelchuk+ (NOVO)
Translated from YAF 34 1471.
BACINO 79 PRL 43 1073 +Ferguson, Nodulman+ (DELCO Collab.)
BRANDELIK 79 PL 80B 412 +Braunschweig, Martyn, Sander+ (DASP Collab.)
FELLER 78 PRL 40 274 +Litke, Madaras, Ronan+ (LBL, SLAC, NWES, HAWA)
VUILLEMIN 78 PRL 41 1149 +Feldman, Feller+ (LBL, SLAC, NWES, HAWA)
GOLDHABER 77 PL 69B 503 +Wiss, Abrams, Alam+ (LBL, SLAC)
PERUZZI 77 PRL 39 1301 +Piccolo, Feldman+ (SLAC, LBL, NWES, HAWA)
PICCOLO 77 PL 70B 260 +Peruzzi, Luth, Nguyen, Wiss, Abrams+ (SLAC, LBL)
RAPIDIS 77 PRL 39 526 +Gobbi, Luke, Barbaro-Galtieri+ (Mark I Collab.)
PERUZZI 76 PRL 37 569 +Piccolo, Feldman, Nguyen, Wiss+ (SLAC, LBL)

OTHER RELATED PAPERS

MORRISON 89 ARNPS 39 183 +Witherell (UCSB)

D^0

$I(J^P) = \frac{1}{2}(0^-)$

D^0 MASS

The fit includes $D^{\pm}$, D^0, $D_s^{\pm}$, $D^{*\pm}$, D^{*0}, and $D_s^{*\pm}$ mass and mass difference measurements.

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
1864.6± 0.5 OUR FIT					
1864.1± 1.0 OUR AVERAGE					
1864.6± 0.3±1.0	641	BARLAG	90C	ACCM	π^- Cu 230 GeV
1852 ± 7	16	ADAMOVICH	87	EMUL	Photoproduction
1861 ± 4		DERRICK	84	HRS	e^+e^- 29 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1856 ±36	22	ADAMOVICH	84B	EMUL	Photoproduction
1847 ± 7	1	FIORINO	81	EMUL	$\gamma N \rightarrow \overline{D}^0 +$
1863.8± 0.5		[1] SCHINDLER	81	MRK2	e^+e^- 3.77 GeV
1864.7± 0.6		[1] TRILLING	81	RVUE	e^+e^- 3.77 GeV
1863.0± 2.5	238	ASTON	80E	OMEG	$\gamma p \rightarrow \overline{D}^0$
1860 ± 2	143	[2] AVERY	80	SPEC	$\gamma N \rightarrow D^{*+}$
1869 ± 4	35	[2] AVERY	80	SPEC	$\gamma N \rightarrow D^{*+}$
1854 ± 6	94	[2] ATIYA	79	SPEC	$\gamma N \rightarrow D^0 \overline{D}^0$
1850 ±15	64	BALTAY	78C	HBC	$\nu N \rightarrow K^0 \pi\pi$
1863 ± 3		GOLDHABER	77	MRK1	D^0, D^+ recoil spectra
1863.3± 0.9		[1] PERUZZI	77	MRK1	e^+e^- 3.77 GeV
1868 ±11		PICCOLO	77	MRK1	e^+e^- 4.03, 4.41 GeV
1865 ±15	234	GOLDHABER	76	MRK1	$K\pi$ and $K3\pi$

[1] PERUZZI 77 and SCHINDLER 81 errors do not include the 0.13% uncertainty in the absolute SPEAR energy calibration. TRILLING 81 uses the high precision $J/\psi(1S)$ and $\psi(2S)$ measurements of ZHOLENTZ 80 to determine this uncertainty and combines the PERUZZI 77 and SCHINDLER 81 results to obtain the value quoted. TRILLING 81 enters the fit in the $D^{\pm}$ mass, and PERUZZI 77 and SCHINDLER 81 enter in the $m_{D^{\pm}} - m_{D^0}$, below.

[2] Error does not include possible systematic mass scale shift, estimated to be less than 5 MeV.

$|m_{D_1^0} - m_{D_2^0}|$

The D_1^0 and D_2^0 are the mass eigenstates of the D^0 meson.

VALUE (10^{10} $\hbar$ s^{-1})	CL%	DOCUMENT ID		TECN	COMMENT
< 20	90	[3,4] ANJOS	88C	E691	Photoproduction
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 40	90	[3] ALBRECHT	87K	ARG	e^+e^- 10 GeV
< 24	90	[5] LOUIS	86	SPEC	π^- W 225 GeV
<106	90	[3,6] YAMAMOTO	85	DLCO	e^+e^- 29 GeV
< 99	90	[5] BODEK	82	SPEC	π^-, pFe $\rightarrow D^0$

[3] Limit inferred from the D^0-$\overline{D}^0$ mixing ratio $\Gamma(K^+\pi^-(\text{via } \overline{D}^0))/\Gamma(K^-\pi^+)$ near the end of the D^0 Listings.

[4] Calculated by us using $\Delta(m) = (2r/(1-r))^{1/2}\hbar/4.21 \times 10^{-13}$ s, where r is the D^0-$\overline{D}^0$ mixing ratio. See the data on $r \equiv \Gamma(K^+\pi^-(\text{via } \overline{D}^0))/\Gamma(K^-\pi^+)$ near the end of the D^0 Listings.

[5] Limit inferred from the D^0-$\overline{D}^0$ mixing ratio $\Gamma(\mu^- \text{anything (via } \overline{D}^0))/\Gamma(\mu^+ \text{anything})$ near the end of the D^0 Listings.

[6] YAMAMOTO 85 gives $\Delta(m)/\Gamma < 0.44$. We use $\Gamma = \hbar/4.3 \times 10^{-13}$ s.

$m_{D^{\pm}} - m_{D^0}$

The fit includes $D^{\pm}$, D^0, $D_s^{\pm}$, $D^{*\pm}$, D^{*0}, and $D_s^{*\pm}$ mass and mass difference measurements.

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
4.78±0.10 OUR FIT				
4.74±0.28 OUR AVERAGE				
4.7 ±0.3	[7] SCHINDLER	81	MRK2	e^+e^- 3.77 GeV
5.0 ±0.8	[7] PERUZZI	77	MRK1	e^+e^- 3.77 GeV

[7] See the footnote on TRILLING 81 in the D^0 and $D^{\pm}$ sections on the mass.