

Table 3.14 from (2010PU04): References for ${}^2\text{H}(p, p){}^2\text{H}$ and ${}^1\text{H}(d, d){}^1\text{H}$

References	$E_p, E_d,$ or $E_{c.m.}$ (MeV)	Comments
(1999KA46)	$E_{c.m.} = 0.163-2$	\vec{p}, \vec{d} beams; measured cross section, VAP and TAP; compared with theory; studied 3N force effects
(1997KI17)	$E_{c.m.} = 0.432$	\vec{d} beam; measured T_{20} and T_{22} ; compared with theory; obtained p-d scattering lengths and D/S asymptotic ratio
(1998BR11)	$E_{c.m.} = 0.43$	\vec{p}, \vec{d} beams; measured A_y and iT_{11} ; compared with theory including 3N force; find discrepancy in both analyzing powers
(2001BR12)	$E_{c.m.} = 0.43-2.0$	\vec{p}, \vec{d} beams; measured σ , VAP and TAP, excitation function for iT_{11} ; compared with theory; observe discrepancy in analyzing powers
(2001WO06, 2002WO05)	$E_{c.m.} = 0.667$	Measured cross sections and analyzing powers for both ${}^2\text{H}(p, p)$ and ${}^1\text{H}(d, d)$ with \vec{p}, \vec{d} respectively; deduced phase shifts; compared with 2N and 3N model predictions; studied A_y puzzle
(2001KI03, 2001KI22)	$E_p = 1, E_d = 1$	Measured cross section; compared with theory; studied 3N force effects
(1996KI15)	$E_p = 1-3, E_d = 5,6$	\vec{p}, \vec{d} beams, determined cross section, phase shifts, VAP and TAP
(2007DE31)	$E_p = 1.9-3.0$	Measured differential cross sections for lab angles of 151 and 167 degrees; compared results with earlier measurements
(1995SH25)	$E_p = 2-4, E_d = 5,6$	\vec{p}, \vec{d} beams; measured $A_y, iT_{11}, T_{21}, T_{22}$; compared with Faddeev calculation
(1994SA26)	$E_p = 2-18$	Used polarized and unpolarized p's; measured energy dependence of cross section and A_y ; compared with Faddeev calculation

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(continued)

References	$E_p, E_d,$ or E_{cm} (MeV)	Comments
(1993KN02)	$E_p = 3; E_d = 6$	\vec{p}, \vec{d} beams; measured cross section, analyzing powers; deduced phase shift parameters; compared with Faddeev calculation
(1987SO05)	$E_d = 10$	\vec{d} beam; measured $iT_{11}(\theta), T_{20}(\theta), T_{21}(\theta), T_{22}(\theta)$; compared with Faddeev calculation
(1988RA43)	$E_p = 10-16.5$	\vec{p} beam; measured cross sections and analyzing powers especially at forward and back angles; compared with Faddeev calculations with realistic potentials
(1993SY01, 1994SY01, 1998SY01)	$E_p = 19$	\vec{p} beam; observed polarization of outgoing p's and d's; measured analyzing powers and polarization transfer coefficients; compared with Faddeev calculations with different NN forces and force components
(1989CL06, 1990CL01, 1990GR20)	$E_p = 22.7$	\vec{p} beam; measured polarization transfer coefficients; deduced properties of n-p system; compared with Faddeev calculation
(2006WI09)	$E_p = 22.7$	\vec{p} beam; observed polarization of outgoing p's or d's; measured polarization transfer coefficients; compared with Faddeev calculation
(1989KI03)	$E_p = 43$	\vec{p} beam; deduced analyzing power; looked for parity non-conservation
(1987NA03)	$E_p = 65$	\vec{p} beam; measured depolarization parameter as function of θ
(1987AR30)	$E_d = 70$	\vec{d} beam; measured cross section and VAP; compared with Faddeev calculation

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(continued)

References	$E_p, E_d,$ or E_{cm} (MeV)	Comments
(1993WI25)	$E_d = 75\text{-}187$	\vec{d} beam; measured analyzing powers; compared with Faddeev calculations with realistic NN interactions
(2001ER01, 2001ER02)	$E_p = 108\text{-}170$	Measured VAP's; compared with theory; deduced no improvement with 3N force
(2003ER04, 2004KA28, 2005ER03, 2007KA38)	$E_p = 108\text{-}190$	\vec{p} beam; measured cross section and VAP; compared with theory; deduced 3N force effects
(1991CA32)	$E_d = 120\text{-}150$	\vec{d} beam; measured $iT_{11}(\theta), T_{22}(\theta), T_{20}(\theta), T_{21}(\theta)$
(1990WI21)	$E_p = 120, 200$	\vec{p} beam; measured p-d coincidence spectra; deduced analyzing power
(2003KI21, 2005KI19, 2007ST29)	$E_d = 130$	\vec{d} beam; measured cross section, VAP, TAP; compared with Faddeev calculation with modern NN and 3N forces; 3N force effects seen
(2008RA17)	$E_d = 130, E_p = 135$	\vec{p} and \vec{d} beams; measured differential cross sections; VAP and TAP; compared with previous experiments
(2007MA23)	$E_d = 130, 180$	\vec{d} beam; measured VAP and TAP; compared with theory; differences found
(2006PR22)	$E_p = 135, 200$	\vec{p} beam and \vec{d} target; detected both outgoing particles; measured cross section, analyzing powers and spin correlation coefficients; compared with Faddeev theory including 3N force
(2005SE22)	$E_p = 135; E_d = 270$	Studied both ${}^2\text{H}(p, p)$ and ${}^1\text{H}(d, d)$; measured cross section, compared with previous measurements and theory; deduced 3N force and relativistic effects

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(continued)

References	$E_p, E_d,$ or E_{cm} (MeV)	Comments
(2001SE09, 2002SE03)	$E_d = 140, 200, 270$	\vec{d} beam; measured cross section, VAP and TAP; compared to Faddeev calculations with modern NN and 3N forces
(2000BI02, 2001KA25)	$E_p = 150, 190; E_d = 270$	\vec{p}, \vec{d} beams; measured VAP and TAP; compared with theory; deduced role of 3N force
(2007AM03)	$E_d = 180$	\vec{d} beam; measured cross section, VAP, TAP, spin-transfer coefficients; compared with theory; deduced 3N force effects
(2001CA05, 2001KI18)	$E_p = 197$	\vec{p} beam and \vec{d} target, measured analyzing powers, spin correlation parameters; compared with theory; deduced 3N force effects
(1994BU11)	$E_p = 198.5, 297.6, 456.6$	Measured cross section; deduced scattering length
(1998RO12)	$E_p = 200, 221, 235, 258, 295$	Measured $\sigma(\theta)$ for center of mass angles from 11° to 29° ; compared with Faddeev calculations; suspect possible relativistic effects
(2002HA43, 2003HA41, 2003SH45)	$E_p = 250$	\vec{p} beam; measured cross section, analyzing power, polarization transfer coefficients; compared with Faddeev calculations; deduced 3N force effects
(1996SA45)	$E_d = 270$	\vec{d} beam; measured $\sigma(\theta)$, VAP and TAP; compared with Faddeev calculation
(2000SA24, 2001SA14, 2001SA33, 2003SE06, 2003SE18, 2004SE07)	$E_d = 270$	\vec{d} beam; measured polarization transfer coefficient; compared with model calculations
(2003TA43)	$E_p = 392$	\vec{p} beam; measured cross section, VAP; compared with model predictions

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(continued)

References	$E_p, E_d,$ or E_{cm} (MeV)	Comments
(1987RA17)	$E_p = 500, 800$	\vec{p} beam; measured polarization and asymmetry of scattered p's and spin transfer observables; compared with relativistic multiple scattering model
(1991GU01)	$E_p = 641.3, 792.7$	Measured cross section; compared with relativistic theory
(1989GR20)	$E_p = 695-991$	Compared $p + {}^2\text{H}$ and $p + {}^4\text{He}$ scattering
(1992GU01)	$E_p = 794$	\vec{p} beam and \vec{d} target; measured various spin quantities; compared with relativistic calculations
(1988AD02, 1988IG02)	$E_p = 800$	\vec{p} beam and \vec{d} target; measured analyzing powers and spin transfer coefficients
(2008JA07, 2008KU14)	$E_d = 880$	\vec{d} beam; measured VAP and TAP; compared with theory
(1989AV02)	$E_d = 0.9-10$ GeV	\vec{d} beam; measured analyzing power
(1999BB21, 1999DE47)	$E_p = 1.1-2.4$ GeV	\vec{p} beam and polarized and unpolarized targets; measured analyzing powers, spin correlation parameters, polarization transfer quantities; compared with other data and theory
(1987HA35)	$E_d = 1.2, 1.8, 2.0$ GeV	\vec{d} beam; measured vector and tensor spin observables; compared to relativistic multiple scattering theory
(1997LA21)	$E_p = 1.25$ GeV	\vec{p} beam and \vec{d} target; measured spin correlation and transfer quantities
(1997LA21)	$E_d = 1.488, 1.588$ GeV	\vec{d} beam and \vec{p} target; measured analyzing powers and spin correlations
(1991GH01)	$E_d = 1.6$ GeV	\vec{p} beam and \vec{d} target; measured many vector and tensor spin observables; compared to previous experiments and to relativistic impulse approximation

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 (continued)

References	$E_p, E_d,$ or E_{cm} (MeV)	Comments
(1997AZ02, 1998AZ02)	$E_d = 2.1\text{-}4.9$ GeV	\vec{d} beam; measured $\sigma(\theta)$ and $T_{20}(\theta)$; studied reaction mechanism
(1989OH04)	$E_p = 3.5$ GeV	\vec{p} beam; measured analyzing power; compared with Glauber theory