thors	Energy Range (eV)	Technique	Temperature (K) RT unless specified	Sample				Data Presentation	Remarks
				Film	X-tal	Bulk	Prep		Co
KC63	0.06-0.5	Ellips				x	MP,EP	n,k	table λ,n,k
LT66	0.06-0.25	Ellips				x	MP	$\varepsilon_2/\lambda, -\varepsilon_1$	
LTA66	0.1-3.5	Ellips				x	MP	$\varepsilon_2/\lambda, \varepsilon_1$	
LeB67	<4	Ellips				x	MP	ε_2/λ	data from LT66 and LTA66
KNB68	5-12	Ellips						R; KK: σ, $\mathrm{Im}(\varepsilon^{-1})$, $\mathrm{Im}(\varepsilon+1)^{-1}$	data from VAK67, KK analyzed
YDS68	0.05-11.8	Refl		x				R; KK: $\varepsilon_1, \varepsilon_2, \mu$, $\mathrm{Im}(\varepsilon^{-1})$	
SHK69	40-300	Trans		x			Ex	μ	optical absorption, synchrotron radiation
JC74	0.5-6.5	Trans,Refl		x			Ex	n,k,σ	table of E,n,k
WeG74	2-130	Trans		x			Ex	KK: μ	energy loss spectroscopy
WGa74	2-120	Trans		x			Ex	μ, $\mathrm{Im}(\varepsilon^{-1})$; KK: $\varepsilon_1, \varepsilon_2$	energy loss spectroscopy
ST77	0.05-0.1	Ellips			x		MP	$-\varepsilon_1, \varepsilon_2$	
WCL79	0.2-5	Refl	4.2 for $h\nu > 4.4$ eV		x		EP	A; KK: σ	absorptivity measured by calorimetry $h\nu < 4.4$ eV, single crystal E⊥c and E‖c. Also thermoreflectance

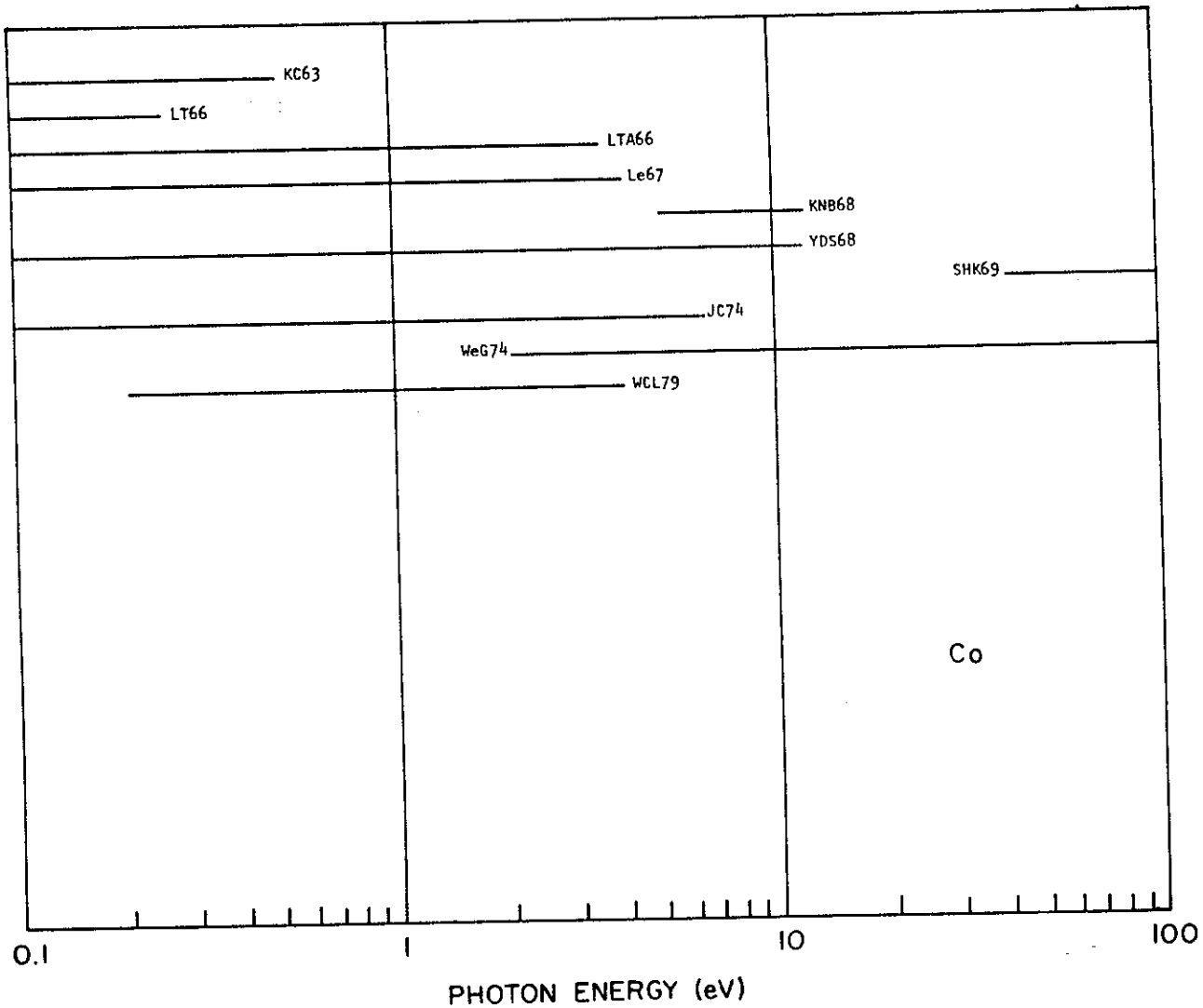

Fig. 27 Survey of available data for Co

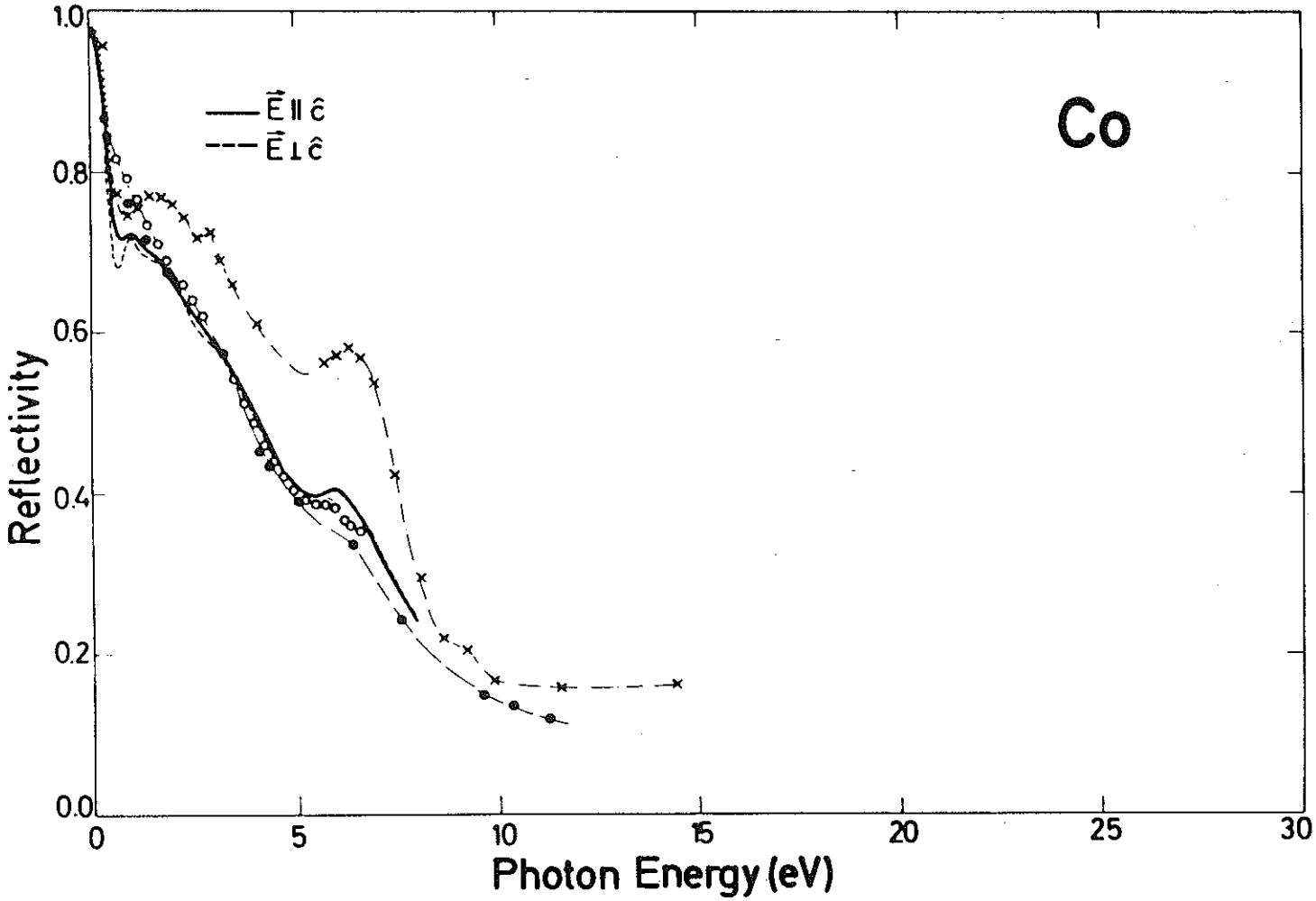

Fig. 28 Reflectivity for Co. Only the results of WCL79 are for single crystal Co (—— is $\vec{E} \parallel \hat{c}$; --- is $\vec{E} \perp \hat{c}$); ●●● YDS68; ooo JC74; xxx KNB68; ••• KC63.

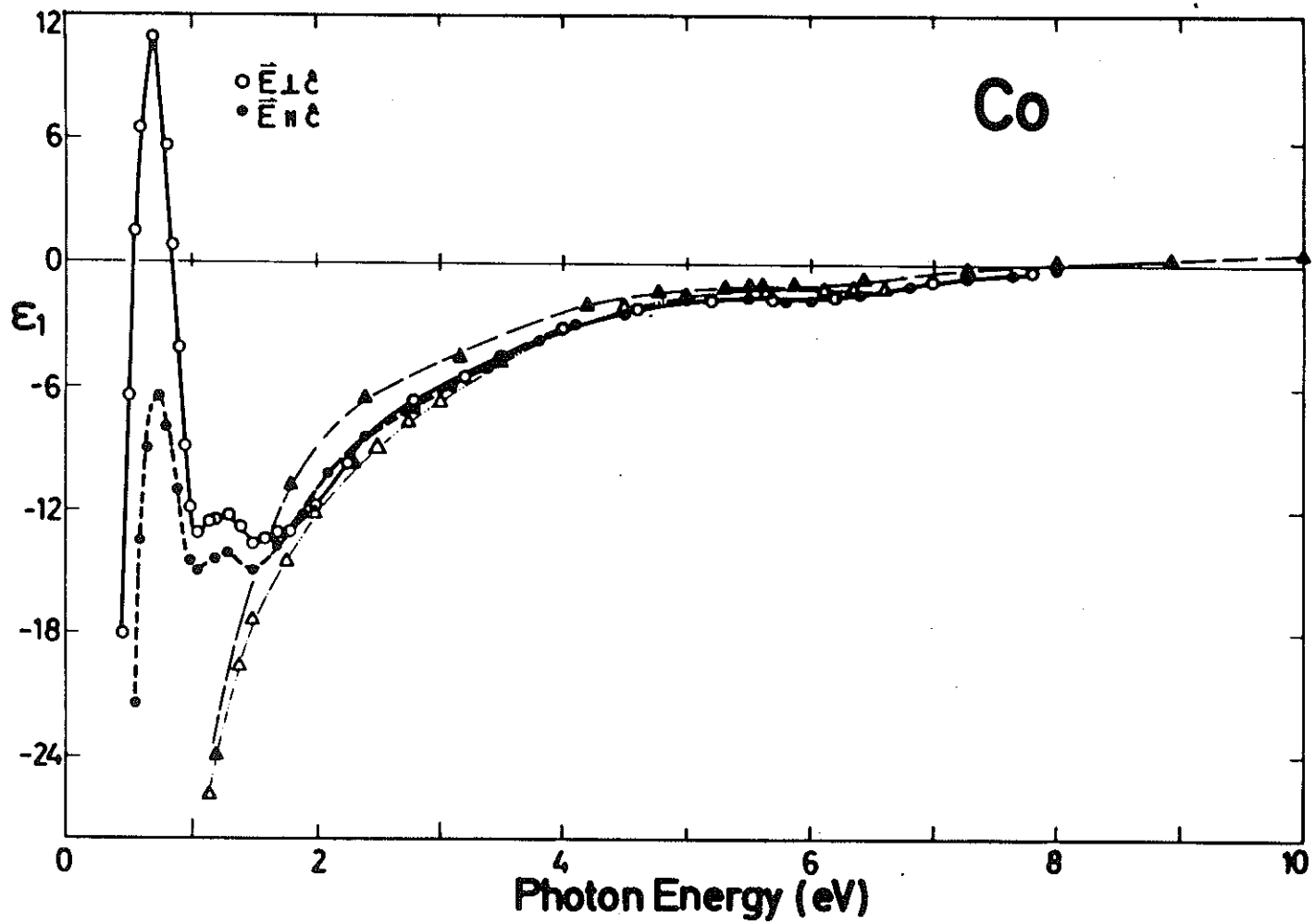

Fig. 29 ε_1 for Co. Only the results of WCL79 are for single crystal Co (●●● is $\vec{E} \parallel \hat{c}$; ooo is $\vec{E} \perp \hat{c}$); ΔΔΔ JC74; ▲▲▲ YDS68.

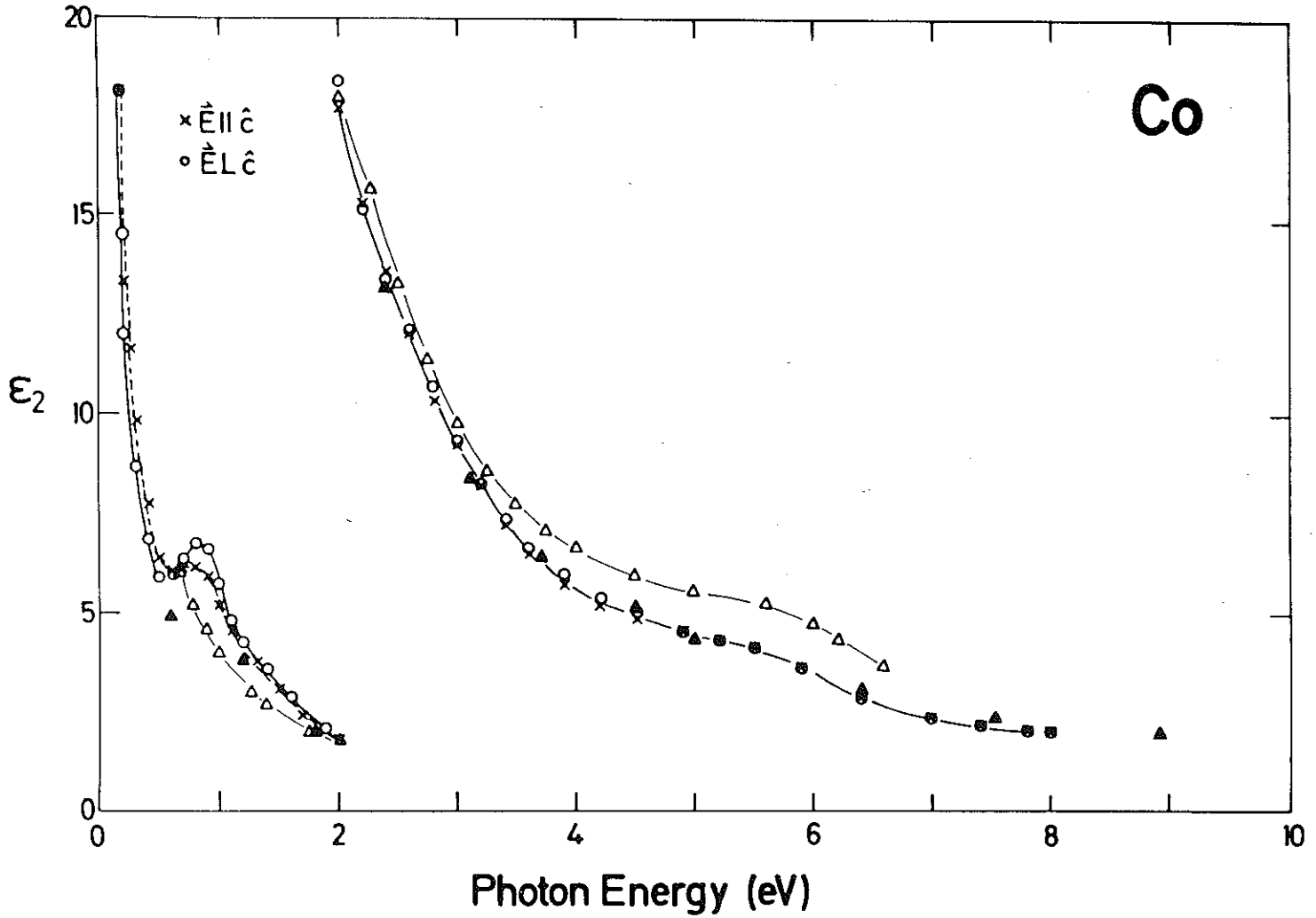

Fig. 30 ε_2 for Co. Only the results of WCL79 are for single crystal Co (xxx is $\vec{E} \parallel \hat{c}$; ooo is $\vec{E} \perp \hat{c}$); ΔΔΔ JC74; ▲▲▲YDS68.

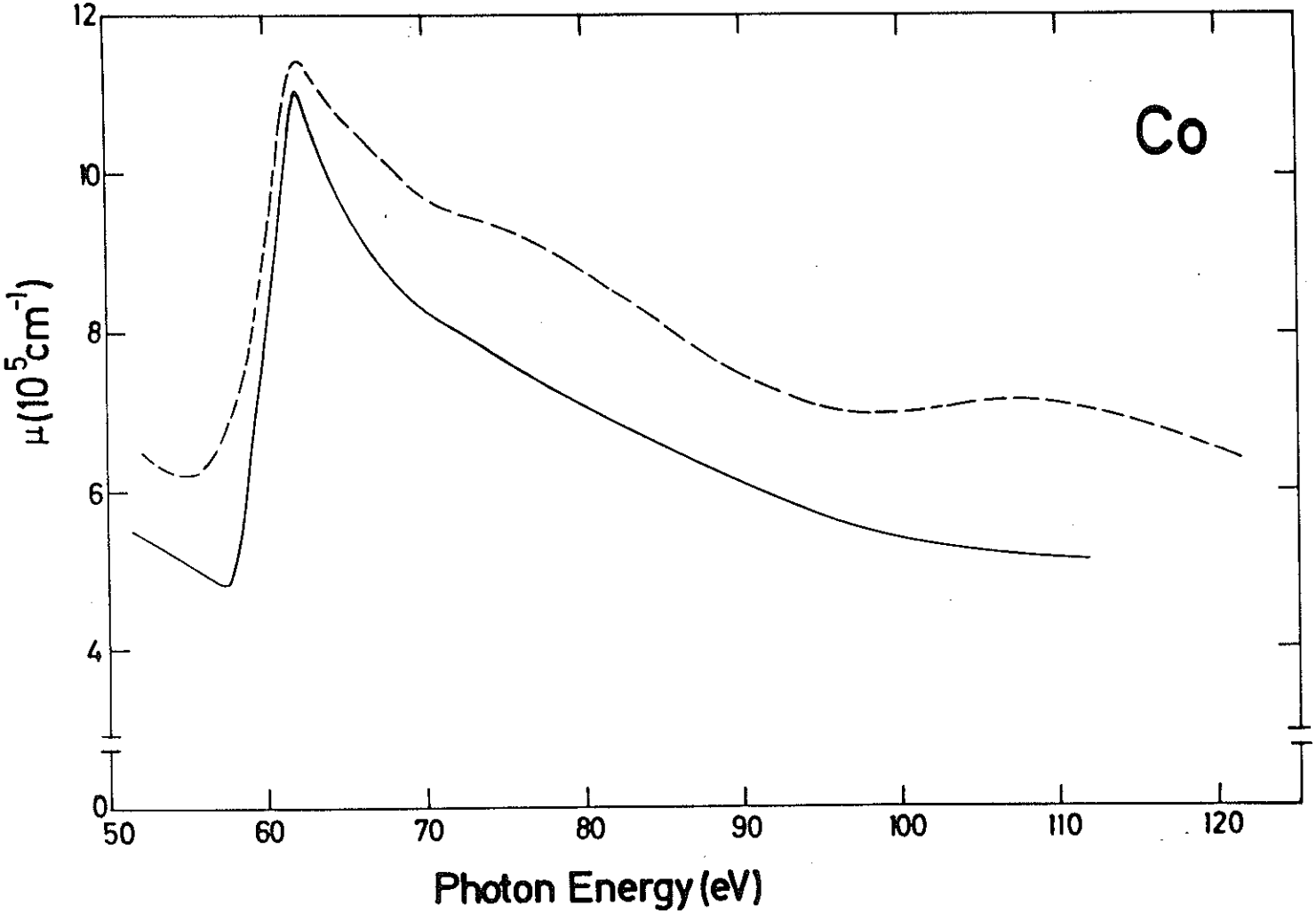

Fig. 31 Absorption coefficient for Co. —— SHK69; --- WeG74.

Cobalt single crystal with $\vec{E} \parallel \hat{c}$

publication by J.H. Weaver, E. Colavita, D.W. Lynch, and R. Rosei in Phys. Rev. B 19, 3850 (1979) based on the following tabulation

Energy (eV)	ε_1	ε_2	n	k	$Im(-1/\tilde{\varepsilon})$	$R(\phi=0)$
0.10	-1389.33	508.32	6.71	37.87	0.00	.982
0.13	-902.53	328.31	5.38	30.52	0.00	.976
0.15	-626.89	237.59	4.66	25.47	0.00	.973
0.17	-458.71	180.74	4.14	21.81	0.00	.967
0.20	-339.95	133.38	3.55	18.78	0.00	.962
0.25	-197.03	116.09	3.98	14.59	0.00	.933
0.30	-131.53	98.34	4.04	12.16	0.00	.907
0.35	-90.33	86.85	4.18	10.38	0.01	.876
0.40	-65.39	77.50	4.24	9.13	0.01	.847
0.45	-48.05	68.82	4.24	8.12	0.01	.819
0.50	-32.27	63.48	4.41	7.19	0.01	.782
0.55	-21.42	61.01	4.65	6.56	0.01	.752
0.60	-13.48	60.17	4.91	6.13	0.02	.729
0.65	-8.99	60.67	5.12	5.93	0.02	.718
0.70	-6.78	61.24	5.24	5.85	0.02	.713
0.75	-6.52	61.62	5.26	5.85	0.02	.713
0.80	-8.02	60.94	5.17	5.89	0.02	.716
0.85	-7.84	59.37	5.10	5.82	0.02	.713
0.90	-11.01	58.83	4.94	5.95	0.02	.720
0.95	-12.97	55.56	4.70	5.92	0.02	.722
1.00	-14.41	52.19	4.46	5.86	0.02	.722
1.05	-14.92	48.69	4.24	5.74	0.02	.719
1.10	-14.86	45.63	4.07	5.61	0.02	.715
1.15	-14.67	43.05	3.92	5.48	0.02	.711
1.20	-14.27	40.87	3.81	5.36	0.02	.706
1.25	-14.12	39.09	3.70	5.28	0.02	.703
1.30	-14.12	37.46	3.60	5.20	0.02	.701
1.35	-14.27	35.89	3.49	5.14	0.02	.701
1.40	-14.56	34.29	3.37	5.09	0.02	.701
1.45	-14.88	32.53	3.23	5.03	0.03	.701
1.50	-14.99	30.68	3.10	4.96	0.03	.701
1.55	-14.96	28.84	2.96	4.87	0.03	.700
1.60	-14.69	27.08	2.84	4.77	0.03	.697
1.65	-14.21	25.58	2.74	4.66	0.03	.693
1.70	-13.86	24.34	2.66	4.57	0.03	.690
1.75	-13.70	23.06	2.56	4.50	0.03	.689
1.80	-13.42	21.65	2.45	4.41	0.03	.687
1.85	-12.84	20.35	2.37	4.30	0.04	.682
1.90	-12.18	19.32	2.31	4.18	0.04	.675
1.95	-11.62	18.47	2.26	4.09	0.04	.669
2.00	-11.13	17.72	2.21	4.00	0.04	.664
2.10	-10.25	16.37	2.13	3.85	0.04	.654
2.20	-9.41	15.32	2.07	3.70	0.05	.642
2.30	-8.86	14.44	2.01	3.59	0.05	.634
2.40	-8.43	13.60	1.95	3.49	0.05	.627
2.50	-8.04	12.81	1.88	3.40	0.06	.622
2.60	-7.76	12.05	1.81	3.32	0.06	.618
2.70	-7.53	11.19	1.73	3.24	0.06	.615
2.80	-7.05	10.43	1.66	3.13	0.07	.607

Co $\vec{E} \parallel \hat{c}$

Energy (eV)	ε_1	ε_2	n	k	Im(-1/$\tilde{\varepsilon}$)	R(ϕ=0)
2.90	-6.68	9.81	1.61	3.05	0.07	.600
3.00	-6.36	9.22	1.55	2.96	0.07	.594
3.10	-6.01	8.67	1.51	2.88	0.08	.586
3.20	-5.70	8.17	1.46	2.80	0.08	.579
3.30	-5.39	7.70	1.42	2.72	0.09	.572
3.40	-5.07	7.26	1.38	2.64	0.09	.563
3.50	-4.76	6.86	1.34	2.56	0.10	.554
3.60	-4.44	6.49	1.31	2.48	0.10	.544
3.70	-4.10	6.20	1.29	2.40	0.11	.531
3.80	-3.81	5.95	1.28	2.33	0.12	.519
3.90	-3.54	5.73	1.26	2.27	0.13	.507
4.00	-3.28	5.54	1.26	2.20	0.13	.495
4.10	-3.05	5.38	1.25	2.15	0.14	.483
4.20	-2.83	5.24	1.25	2.10	0.15	.471
4.30	-2.66	5.13	1.25	2.05	0.15	.461
4.40	-2.51	5.01	1.24	2.01	0.16	.452
4.50	-2.36	4.90	1.24	1.98	0.17	.444
4.60	-2.22	4.82	1.24	1.94	0.17	.435
4.70	-2.13	4.74	1.24	1.91	0.18	.429
4.80	-2.04	4.65	1.23	1.88	0.18	.423
4.90	-1.95	4.56	1.23	1.86	0.19	.417
5.00	-1.87	4.49	1.22	1.83	0.19	.411
5.10	-1.81	4.42	1.22	1.81	0.19	.407
5.20	-1.76	4.35	1.21	1.79	0.20	.403
5.30	-1.72	4.29	1.21	1.78	0.20	.400
5.40	-1.71	4.23	1.19	1.77	0.20	.399
5.50	-1.71	4.15	1.18	1.76	0.21	.399
5.60	-1.72	4.07	1.16	1.75	0.21	.400
5.70	-1.76	3.96	1.13	1.75	0.21	.403
5.80	-1.79	3.81	1.10	1.73	0.21	.406
5.90	-1.79	3.64	1.07	1.71	0.22	.408
6.00	-1.76	3.47	1.03	1.68	0.23	.407
6.20	-1.66	3.15	0.97	1.62	0.25	.401
6.40	-1.47	2.88	0.94	1.53	0.28	.386
6.60	-1.29	2.66	0.91	1.46	0.30	.368
6.80	-1.08	2.51	0.91	1.38	0.34	.345
7.00	-0.92	2.39	0.91	1.32	0.36	.326
7.20	-0.76	2.30	0.91	1.26	0.39	.305
7.40	-0.62	2.22	0.92	1.21	0.42	.286
7.60	-0.50	2.16	0.93	1.17	0.44	.269
7.80	-0.39	2.11	0.94	1.13	0.46	.253
8.00	-0.29	2.07	0.95	1.09	0.47	.239

Cobalt single crystal with $\vec{E} \perp \hat{c}$

publication by J.H. Weaver, E. Colavita, D.W. Lynch, and R. Rosei in Phys. Rev. B 19, 3850 (1979) based on the following tabulation

Energy (eV)	ε_1	ε_2	n	k	Im(-1/$\tilde{\varepsilon}$)	R(ϕ=0)
0.10	-1013.25	377.34	5.83	32.36	0.00	.979
0.13	-646.91	247.56	4.78	25.88	0.00	.973
0.15	-438.85	181.23	4.24	21.37	0.00	.965
0.17	-310.68	145.32	4.02	18.08	0.00	.954
0.20	-226.40	120.11	3.87	15.53	0.00	.942
0.25	-129.44	101.60	4.19	12.12	0.00	.904
0.30	-81.36	86.82	4.34	10.01	0.01	.865
0.35	-51.09	76.89	4.54	8.47	0.01	.823
0.40	-32.83	68.89	4.66	7.39	0.01	.785
0.45	-18.06	62.77	4.86	6.46	0.01	.744
0.50	-6.37	59.48	5.17	5.75	0.02	.709
0.55	1.45	58.96	5.50	5.36	0.02	.690
0.60	6.51	59.70	5.77	5.17	0.02	.682
0.65	9.88	61.14	5.99	5.10	0.02	.680
0.70	10.86	63.94	6.15	5.20	0.02	.685
0.75	9.26	66.64	6.19	5.39	0.01	.693
0.80	5.58	68.20	6.08	5.61	0.01	.702
0.85	0.80	67.99	5.86	5.80	0.01	.709
0.90	-4.11	66.03	5.57	5.93	0.02	.715
0.95	-8.88	62.48	5.21	6.00	0.02	.720
1.00	-11.92	57.42	4.83	5.94	0.02	.721
1.05	-13.11	52.35	4.52	5.79	0.02	.717
1.10	-12.79	48.24	4.31	5.60	0.02	.711
1.15	-12.48	45.36	4.16	5.45	0.02	.705
1.20	-12.39	43.00	4.02	5.34	0.02	.701
1.25	-12.35	40.88	3.90	5.25	0.02	.697
1.30	-12.33	39.02	3.78	5.16	0.02	.694
1.35	-12.43	37.41	3.67	5.09	0.02	.692
1.40	-12.85	35.85	3.55	5.05	0.02	.692
1.45	-13.34	34.08	3.41	5.00	0.03	.693
1.50	-13.62	32.11	3.26	4.93	0.03	.692
1.55	-13.45	30.27	3.14	4.83	0.03	.689
1.60	-13.29	28.74	3.03	4.74	0.03	.687
1.65	-13.17	27.36	2.93	4.66	0.03	.685
1.70	-13.14	26.05	2.83	4.60	0.03	.684
1.75	-13.19	24.65	2.72	4.54	0.03	.684
1.80	-13.04	23.21	2.61	4.45	0.03	.683
1.85	-12.75	21.87	2.51	4.36	0.03	.680
1.90	-12.41	20.63	2.41	4.27	0.04	.677
1.95	-12.02	19.52	2.34	4.18	0.04	.673
2.00	-11.69	18.42	2.25	4.09	0.04	.670
2.10	-10.62	16.60	2.13	3.89	0.04	.659
2.20	-9.68	15.20	2.04	3.72	0.05	.646
2.30	-8.73	14.17	1.99	3.56	0.05	.632
2.40	-8.04	13.40	1.95	3.44	0.05	.620
2.50	-7.54	12.74	1.90	3.34	0.06	.611
2.60	-7.21	12.11	1.86	3.26	0.06	.605
2.70	-7.00	11.41	1.79	3.19	0.06	.602
2.80	-6.70	10.71	1.72	3.11	0.07	.596

Co $\vec{E} \perp \hat{c}$

Energy (eV)	ε_1	ε_2	n	k	Im(-1/$\tilde{\varepsilon}$)	R(ϕ=0)
2.90	-6.41	10.05	1.66	3.03	0.07	.591
3.00	-6.09	9.43	1.60	2.94	0.07	.585
3.10	-5.78	8.87	1.55	2.86	0.08	.578
3.20	-5.48	8.35	1.50	2.78	0.08	.571
3.30	-5.16	7.86	1.46	2.70	0.09	.562
3.40	-4.83	7.44	1.42	2.62	0.09	.553
3.50	-4.52	7.07	1.39	2.54	0.10	.543
3.60	-4.23	6.73	1.36	2.47	0.11	.533
3.70	-3.94	6.43	1.34	2.40	0.11	.522
3.80	-3.67	6.18	1.33	2.33	0.12	.511
3.90	-3.42	5.96	1.31	2.27	0.13	.500
4.00	-3.18	5.78	1.31	2.21	0.13	.488
4.10	-3.01	5.61	1.30	2.17	0.14	.480
4.20	-2.85	5.44	1.28	2.12	0.14	.471
4.30	-2.67	5.28	1.27	2.07	0.15	.461
4.40	-2.51	5.14	1.27	2.03	0.16	.452
4.50	-2.36	5.02	1.26	1.99	0.16	.444
4.60	-2.22	4.92	1.26	1.95	0.17	.436
4.70	-2.13	4.83	1.26	1.92	0.17	.429
4.80	-2.04	4.73	1.25	1.90	0.18	.423
4.90	-1.95	4.64	1.24	1.87	0.18	.417
5.00	-1.86	4.56	1.24	1.84	0.19	.411
5.10	-1.81	4.49	1.23	1.82	0.19	.407
5.20	-1.75	4.41	1.22	1.80	0.20	.403
5.30	-1.72	4.35	1.22	1.79	0.20	.400
5.40	-1.71	4.28	1.21	1.78	0.20	.399
5.50	-1.71	4.21	1.19	1.77	0.20	.399
5.60	-1.72	4.12	1.17	1.76	0.21	.400
5.70	-1.76	4.01	1.14	1.75	0.21	.403
5.80	-1.79	3.86	1.11	1.74	0.21	.406
5.90	-1.80	3.69	1.07	1.72	0.22	.407
6.00	-1.77	3.51	1.04	1.69	0.23	.407
6.20	-1.67	3.18	0.98	1.62	0.25	.401
6.40	-1.48	2.90	0.94	1.54	0.27	.386
6.60	-1.29	2.69	0.92	1.46	0.30	.368
6.80	-1.09	2.53	0.91	1.38	0.33	.345
7.00	-0.92	2.41	0.91	1.32	0.36	.326
7.20	-0.76	2.31	0.91	1.26	0.39	.305
7.40	-0.62	2.24	0.92	1.21	0.42	.286
7.60	-0.50	2.17	0.93	1.17	0.44	.269
7.80	-0.39	2.12	0.94	1.13	0.46	.253
8.00	-0.29	2.08	0.95	1.09	0.47	.239