

Index

- alkaline earth 6, 9, 54, 131
- angle resolved photo-emission spectroscopy *see* ARPES
- angle-resolved photoemission spectroscopy 19, 89–90, 117, 119–22, 124
- angle-resolved photoemission spectroscopy of iron pnictides 89–90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118
- angular dependence 128, 137, 140–43, 335–36
- anisotropic charge dynamics 201–3, 205, 207, 209, 211, 213
- anisotropy 25, 30–32, 59–60, 70–71, 79–80, 204–6, 250, 265, 295–98, 333, 378, 388, 444, 466, 483
- anisotropy ratio 203
- antiferromagnetic correlations 125, 149, 185
- antiferromagnetic instability 150–51, 461
- antiferromagnetic metals 19, 24, 432
- antiferromagnetic order 79–80, 135, 243, 253, 257, 432–33, 459, 492
- antiferromagnetic parent iron pnictides 131, 133, 135, 137, 139, 141
- antiferromagnetic parent members 125, 144–45
- antiferromagnetic phase 13–14, 89, 151, 379, 443
- antiferromagnetic phase of iron-based superconductors 431–32, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460
- antiferromagnetic spin fluctuations 243–44, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272
- antiferromagnetic state 63, 71, 137, 178, 373–75, 433, 443, 458, 464
- antiferromagnetic unit cell 135–37
- antiferromagnetism 145, 177, 179, 281, 305, 307, 357, 359, 368–69, 371, 373–75, 377–78, 392, 474
 - stripe type 377–78
- antiferromagnetism in parent compounds 246–47, 249, 251, 253, 255
- ARPES (angle resolved photo-emission spectroscopy) 19, 40, 64, 89–92, 108, 115–16, 121, 179, 216, 223, 340, 375–76, 387, 432, 465
- ARPES studies 91, 108–9, 112, 223

- asymmetry, electron-hole 108, 118, 120, 159, 409
- asymmetry parameter 277, 309, 311
- background signal 67–69
- backscattered electron analysis 76
- BaFe 18–19, 122–23, 133, 136–37, 139, 144–46, 155–56, 179–80, 306–7, 312–18, 331–32, 348, 397–400, 411–12, 480–82
 - detwinned 205–6
 - detwinned single crystals of 132, 205
 - hole-doped 93, 118, 159
 - K-doped 38, 71, 197
 - orbital model of 411–12
 - superconducting state of 106, 328
- BaFe_{1.85}Co_{0.15}As₂, electron-doped 104–5
- BaFe_{1.87}Co_{0.13}As₂ 216, 219
- BaFe_{1.9}Ni_{0.1}As₂ 258–59, 262
- band calculation, first principles 357, 359–60, 374–75, 377
- band dispersion 91, 103, 107, 112–15, 167, 173
- band mixing 183–84, 186
- band models 366, 375, 385, 465
- band shift 137, 139–40
- band structure 19, 108, 113, 137, 143, 163, 357–61, 363–65, 374–75, 392–94, 396–400, 404, 410, 413–15, 483–85
- band structure calculations 40, 128, 138, 142, 145, 167, 173, 177, 196, 223, 400, 414, 417
- bands
 - dispersive 210
 - linear 140, 142
 - parabolic 138, 140–41
- BCS theory 2, 174, 218, 230, 327
- BGB (bicrystal grain boundary) 27–28
- bicrystal grain boundary *see* BGB
- Brillouin zone *see* BZ
 - folded 365–66, 385
 - original 147–48, 374
- broken symmetry states 163, 174, 214
- BZ (Brillouin zone) 127, 134, 136–39, 141, 147, 150, 203, 223, 360, 363, 392, 397, 399, 432–33, 454–56
- CaFe₂P₂ 145–46, 157
- CaFeAsF, magnetic structure of 12–13
- calculations, first principles 357–58, 364, 373–74
- chemical potential shift 99, 103, 105, 107, 120
- compounds
 - 122-type 35–38
 - 1111-type 8, 32–33, 35
 - 111-type 10
 - 11-type 38–40
- conductivity 27, 165, 168, 171, 173–76, 185, 187, 190, 205–6, 210, 215, 219, 224, 227–28, 231
- conductivity spectra 180–82, 184, 212, 216, 222
- continuum, particle-hole 457, 462–64
- Cooper pairs 175, 227, 264, 281–83, 305, 342
- critical current densities 26, 28, 30–31, 35, 65
- crystal structure of parent materials 6–7, 9
- CuO₂ planes 228, 244–45
- cuprate families 149, 152–53, 245
- cuprates 26–27, 90, 111–12, 146–47, 149, 209, 244–46,

- 259–64, 267–69, 292–93, 358,
414–15, 436–37, 473–74,
507–8
parent compounds of 244,
474–75
- dielectric function 165–66, 225,
228–29
complex 165, 168–69
- dimensionality 281, 348, 397, 410,
413
- Dirac cones 112, 114–15, 123,
142, 158, 363, 462
- Dirac nodes 141, 157, 375–76,
378, 454–55
- Dirac point 138, 140–42
- direction, crystallographic 433,
437, 444, 465–66
- dispersions
electronic 108–9, 123, 158
spin wave 490, 493
- DMFT (dynamical mean field
theory) 368, 375
- doping 6, 11–12, 24–25, 35,
101–2, 120–21, 131–32,
146–47, 150, 152, 201, 246,
347–48, 431–32, 477–78
higher 132, 256
optimal 146, 150–52, 347
- doping dependence 292, 347, 392,
406–8, 410, 468
- doping effect 11–12, 246
- Drude component 180, 183, 187,
192, 207–8, 210, 218
broad 187–89, 207–8
narrow 188, 207–8
- Drude-Lorentz model 169–70,
187, 207, 217
- Drude model 168–70
- Drude response 169, 187, 189,
195, 200–1
- dynamical mean field theory *see*
DMFT
- EDCs (energy distribution curves)
95–96, 100, 102, 110–11, 114
- effective magnetic exchange
models 484, 490
- EFG (electric field gradient) 57,
277, 308, 311, 335
- electric field gradient *see* EFG
- electron doping 3, 6, 15, 25, 33,
90, 93, 105–7, 258, 287, 293,
305, 323, 325, 345
- electron–electron interactions
174, 359, 366, 369, 373–75,
386, 392, 395, 414
multiorbital 366–67
- electron Fermi surfaces 177, 196,
298, 388, 402, 410–11, 413
- electron gas, free 126
- electron-mode coupling 108, 110,
121
- electron–phonon interactions 171,
378
- electron pockets 21, 25, 97, 99,
103–6, 137, 147–49, 187–88,
220, 223, 432, 441–43, 454,
457–58, 465–66
- electron spins 2, 13, 279–80
nearest-neighbor Fe 295
- electronic correlations, degree
of 192
- electronic nematicism 503, 505
- electronic spin 276, 279
- electronic states 23, 89, 91, 102,
106, 116, 153, 181, 337, 357,
359
low-temperature 112
- electrons
bound 169
spin-down 128–29
- Eliashberg equation 385, 403–4,
406–8
- ellipticity 441–43, 452–54,
465–66
- energy distribution curves *see*
EDCs

- energy gaps 95, 110, 180, 183–85, 203, 214, 216, 341, 434, 489
- epitaxial films 27, 35–37
- excitations, spin-wave 453, 491, 499
- extended Drude model 170–71, 189
- extremal orbits 128, 137, 143, 145
- Fe-As bond length 396–98
- Fe atoms 20, 24, 95, 199, 264, 360, 399, 432
- Fe-based compounds 71, 158, 176, 179, 196
- Fe-based materials 244, 249, 432
- Fe ions 2, 134–36, 139–40, 185
- Fe_{0.9}Co_{0.1} 217, 219, 231
- Fe_{1-x}Co_x 18, 29, 123, 159, 216, 254, 259, 305–7, 319, 323, 329, 342–43, 347–48, 413, 501
- Fe_{1.05}Te 75, 182–83, 197, 252, 496, 498
- FeAs 9, 23, 29, 116, 155, 477
- FeAs-based high-temperature superconductors 119, 122, 158
- FeAs-based materials 123, 158
- FeAs materials 433, 437
- Fermi level 5, 8, 23–24, 27, 42, 90, 167, 173, 184, 198, 207, 230, 360, 363, 393
- Fermi-liquid *see* FL
- Fermi surface *see* FS
- Fermi-surface-dependent nodeless superconducting gaps 100, 104, 116
- Fermi surface geometry 41, 128, 134, 144, 150
- Fermi surface pockets 19, 115, 137–39, 144, 443
- Fermi surface sections 128, 134, 137, 143–44
- Fermi surface sheets 98, 100–1, 104, 249
- Fermi surfaces
- disconnected 119, 158, 381–82, 417
 - electronlike 103, 107
- Fermi velocity 19, 130, 150, 152, 187, 204
- Ferrell–Glover–Tinkham *see* FGT
- ferropnictides 432, 437–39, 441, 443, 445, 447, 457, 499, 501
- FeSCs, unique characteristics of 23, 25
- FeSe 9, 38, 54, 288, 337–38, 342–44, 346, 395
- FeSe_{0.5}Te_{0.5} 55, 267, 340
- FeTe 184, 196, 199, 247–48, 395, 474, 479, 482, 484, 491, 495–97, 500
- FeTe_{0.55}Se_{0.45} 212–13, 222
- FGT (Ferrell–Glover–Tinkham) 175, 214
- FGT sum rule 176, 215
- five orbital model 364, 366–69, 372, 375, 377, 385–86, 388–90, 393, 395, 397, 408, 410, 416, 443, 464
- FL (Fermi-liquid) 293, 316–17, 461
- FLEX (fluctuation exchange) 374, 386, 406–7
- fluctuation exchange *see* FLEX
- fluctuations
- antiferro-orbital 386–87
 - ferro-orbital 386–87
- frustration 403–4, 433, 452–53, 497, 500
- FS (Fermi surface) 93–109, 119–21, 125–28, 136–45, 147–54, 156–59, 177–79, 203–4, 357–60, 362–66, 371–72, 379–89, 396–406, 408–17, 482–85
- ellipsoid 203

- FS nesting 179, 186, 207, 313
- Goldstone modes 435, 443, 452, 454, 456, 463
- Green's function 368, 449, 451
- ground state, ordered 473–74
- ground state energy 441–43, 486
- Hamiltonian, nuclear-spin 276
- high- T_c cuprates 1, 3, 65, 172, 176, 186, 203, 209–10, 227, 432
- high- T_c superconductors, underdoped 126
- hole pockets 25, 99, 103, 105, 107, 135, 137, 142, 148–50, 187, 252, 432–33, 441, 456–57, 484
- holelike FSs 293, 345, 349
- hopping integrals 360, 364, 366, 393, 395
- hourglass dispersions 264, 267–68
- Hubbard model 379, 381, 438
- single-band 433–34, 467
- Hund's coupling 163, 196, 198–99, 201, 366–67, 395
- hyperfine coupling tensor 295, 297, 324, 335
- impurity scattering 287, 304, 331, 335
- in-plane anisotropy, large 251–52, 263, 465
- in-plane magnetic structures 247–48
- incommensurability 265–66, 408, 479
- inelastic neutron scattering *see* INS
- INS (inelastic neutron scattering) 110, 122, 158, 243, 248, 251, 295, 369, 372, 457, 463, 465
- insulating phases 41, 223–25
- insulator 25, 27, 81, 434–35
- interactions
- electron-hole 369, 382, 411
 - particle-hole 371, 400
- interband scattering 104, 108, 305
- interband transitions 168, 170–71, 173, 176, 188, 193, 195, 197, 227, 323, 378, 456
- high energy 176, 227
- intraband excitations 166–67, 189, 195
- intraband transitions 167, 171, 456
- iron 2, 41, 71, 74–76, 78, 81, 90, 244, 358, 366–68, 386–87, 397, 413–16, 475, 483–86
- iron arsenides 117, 123, 155–56, 248–49, 251, 330
- iron-chalcogenides 473–74, 478–79, 483–85, 498, 507–8
- families of 479, 490–91
- iron moments 55, 72, 74
- iron pnictides 89–92, 104, 108–10, 112, 114–16, 122–24, 146–47, 187–88, 245, 368, 474, 476–79, 482–85, 489–90, 507–8
- Ising nematic order 432–33, 441, 445–46, 467
- $K_x\text{Fe}_{2-y}\text{Se}_2$ 58, 60, 80, 196, 340–44, 346–49
- LaFeAs 90, 276, 287, 291, 293–96, 298–99, 301–3, 305–6, 325, 333, 344, 347–48
- doped 305
 - electron-doped 304–5

- LaFeAsO 5–6, 24, 27, 288, 290–91, 296–98, 326, 328–29, 360, 363–64, 367, 384, 391–95, 397–98, 407–8
- LaFeAsO_{1- δ} 287, 291, 299, 301, 325, 347
- LaFePO 3, 5–6, 24, 192–94, 390–95, 404, 407, 411, 413
- lattice constants 39, 391, 393, 400, 476
- lattice distortion 177, 252, 377, 445, 447, 477, 480, 496, 504, 506
- lattice parameters 9, 13, 18–19, 21, 33, 58, 364, 393
- LDA (local density approximation) 113, 134, 136, 138, 203, 211, 360, 378
- Lindhard function 144, 147–49
- Line nodes 301–3
- local density approximation *see* LDA
- local spin density approximation *see* LSDA
- localized spins, model of 433, 465
- Lorentz model 168–70
- low-temperature Brillouin-zone boundary 112–13
- LSDA (local spin density approximation) 374
- magnetic exchange couplings 478, 483–86, 496
 effective 477, 480–81, 498
- magnetic excitation spectrum 452–54
- magnetic excitations 119, 256–57, 259, 261, 263–65, 267, 463, 465, 475, 478–79
- magnetic field dependence 56, 129, 388
- magnetic fraction 78–79, 81
- magnetic frustration 437, 495–96
- magnetic instability 150, 158, 281, 318, 323, 338, 340
- magnetic interactions 122, 158–59, 431
- magnetic order 54–55, 77–78, 81, 117, 122, 155, 158, 161, 177, 179, 433, 452–54, 482–83, 485, 507–8
 stripe 447
- magnetic order in ferropnictides 437, 439, 441, 443, 445, 447
- magnetic ordering 55, 72–74, 112, 137–38, 281, 333, 346, 369, 373, 431, 437, 445, 484
- magnetic peaks 78
- magnetic phase transitions 15, 161, 177–78, 180, 186, 253, 340, 476
- magnetic phases 78, 183, 205, 248, 437
- magnetic resonance 257–61, 350
- magnetic states 374, 439, 450, 457, 460, 475, 484–85, 498
- magnetic structures 72–73, 161–62, 179, 246–49, 477, 484, 491
- magnetic susceptibility 54–55, 60, 62, 65, 81, 149, 279, 291
- magnetic transition 14, 55, 79, 180, 184, 253, 290, 310–11, 335, 432, 445, 447, 482, 497
- magnetic transition temperature 20, 437, 482
- magnetism 2, 24, 41, 54, 122–23, 158, 161, 163, 186, 196, 243, 358, 431–32, 473–76, 483–84
- magnetization, field-induced 264
- magneto-optical imaging 53, 56, 64–65
- many-body interactions 89, 91, 108, 110, 116, 170
- masses, effective cyclotron 127, 130, 141, 152

- materials
 - 111-type 10
 - 1111-type 6, 14, 18
 - cuprate 147
 - doped 379, 392
 - polycrystalline 14, 30, 58
- MDCs (momentum distribution curves) 110
- metals, alkali 6, 9–10, 131
- MgB₂ 2–3, 24, 26, 35, 91, 117–18
- model Hamiltonian construction 359, 361, 363, 365, 367
- Mössbauer measurements 53–54, 57
- Mössbauer spectra 57, 72–73
- Mössbauer spectroscopy 55, 59, 71–72, 74, 78, 81
- Mott physics 196, 246

- NaFeAs 10, 21, 180, 246, 248, 332, 335, 337, 346, 474, 477–78
- Néel temperature 132
- nematic order 376–77, 445, 447, 503–5, 507
- neutron diffraction 12, 55, 74–75, 78, 81, 122
- neutron diffraction experiments 178, 184
- neutron scattering experiments 185, 212, 253, 269, 316, 388, 390, 392, 475–76, 483
 - inelastic 248, 251, 369, 372, 463, 465
- next nearest neighbor *see* NNN
- NMR (nuclear magnetic relaxation) 232, 275–77, 286, 294, 310, 313, 319–20, 323, 329, 332–33, 335, 337–38, 340, 387, 391
- NMR basics 276–77, 279, 281, 283, 285
- NMR experimental results on iron-based superconductors 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315
- NMR line shapes 319
- NMR spectra 289, 292, 308–9, 311–12, 315
- NMR studies 275–76, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 304–6, 332, 334–38, 340
- NNN (next nearest neighbor) 479, 485, 498
- NQR (nuclear quadrupole resonance) 277, 287, 332–33
- nuclear magnetic relaxation *see* NMR
- nuclear quadrupole resonance *see* NQR
- nuclear spin 276–79, 283, 320, 326
- nuclear spin lattice relaxation rate 231–32
- nuclear Zeeman energy 280

- optical conductivity 167, 186–89, 191–94, 199, 213–14, 216–22, 228–29, 375–76, 378, 445
- optical constants 164–66, 168–69
- optical properties of iron-based superconductors 214–15, 217, 219, 221, 223, 225, 227, 229, 231
- optical properties of solids 164–65, 167, 169, 171, 173, 175
- optical response 163, 166, 170, 186–87, 202–3, 226, 228
- optical spectra 181, 183, 185, 190–91, 197, 203, 214–16, 218, 221

- orbital ordering 378, 386, 445
- orbital representation 372, 382
- orbital shift 207, 314–15
- ordering
 - ferro-orbital 377–78, 387
 - planar 73–74
- orthorhombic phase 12, 204, 207, 308–9, 476

- pairing, spin-fluctuation-mediated 357–59, 414
- pairing energy gap 163, 172, 174–75, 215
- pairing interaction 379–80, 382, 385–86
- pairing mechanism 91, 119, 357–58, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382
- pairing symmetries 91, 93, 119, 158, 231, 244, 383, 387, 479, 508
- paramagnetic component 73, 75, 77
- paramagnetic iron pnictides
 - overdoped 142–43, 145
- parent compounds of iron-based superconductors 432, 473–74, 476–82, 484, 486, 488, 490, 492, 494, 496, 498, 500–2, 504, 506, 508
- phase
 - impurity 14, 30, 74
 - incommensurate 491–92, 501–2
 - nematic 265, 503–4
 - paramagnetic 59, 163, 186, 196, 208, 307, 310–13, 449
- phase separation 80–81, 225–26
 - stripe-type 225–26
- phase shift 165–66, 169

- phase smearing 129–30
- phase transitions 172, 177, 180, 311, 335, 476–77, 506
 - structural 122, 132, 178, 181, 204, 290
- photoelectrons 91–92
- photoemission experiments 142, 249
- PLD (pulsed laser deposition) 31, 33–37
- pnictides 7, 65, 90, 111–12, 120, 131, 135, 147, 149, 153, 163, 201
- pseudogap 90, 102, 116–17, 120, 132, 292–94, 341
- pseudogap behavior 292–95, 342, 347, 349
- pulsed laser deposition *see* PLD

- QCP (quantum critical point) 20, 118, 125, 130, 149–55, 159, 256, 306, 317, 323, 347–48
- quantum critical point *see* QCP
- quantum fluctuations 437, 487–88, 490, 500
- quantum oscillation amplitude 128–30
- quantum oscillation experiments 112, 115
- quantum oscillation frequencies, measured 128, 137, 139, 142–44, 151
- quantum oscillation measurements 125–26, 139, 145
- quantum oscillations 123, 126–28, 130–33, 142–47, 149–54, 156–57, 159
- quantum oscillations in
 - antiferromagnetic parent iron pnictides 131, 133, 135, 137, 139, 141

- quantum oscillations in iron
 - pnictide superconductors
 - 125–26, 128, 130, 132, 134,
 - 136, 138, 140, 142, 144, 146,
 - 148, 150, 152, 154
- quantum oscillations in overdoped
 - paramagnetic iron pnictides
 - 142–43, 145
- quasiparticles, down-spin 283

- random-phase approximation *see*
 - RPA
- reflectivity 165, 168–69, 182, 184,
- 215, 217, 219, 221
- resistivity 3, 16, 25–26, 30, 34, 36,
- 59–62, 64, 133, 180, 281, 290,
- 293, 318, 476
 - anisotropic 59, 61, 205
- resonance 256–58, 260–65, 267,
- 388, 457
- resonance energy 258–59,
- 261–63, 266
- resonance frequency 277, 279
- resonance mode 110, 454
- resonance peak 258, 261–63
- RPA (random-phase
 - approximation) 260, 367–68,
 - 372–74, 382, 384–85, 401,
 - 403–4, 410, 412–13, 435, 449,
 - 451

- scenarios, excitonic 458, 461–63
- SDW (spin-density-wave) 90, 112,
- 174, 176, 181, 223, 337, 375,
- 407, 434–35, 444
- SDW gaps 186, 201, 434, 454–55
- SDW order 177–78, 202–3, 439,
- 442, 453
- SDW state 181, 200–1, 203, 451
 - nodal 375–76, 378
- SDW transition 179–80, 435

- Se doping 255
- spectral weight
 - see* SW
 - free carrier 182, 216
- spin component 279, 325–26
- spin configurations 370, 442, 487,
- 495, 498–99
- spin-density-wave *see* SDW
- spin dynamics 246, 249–50, 264,
- 280, 291, 319, 322
- spin excitations 41, 246, 251, 255,
- 257–58, 264–65, 269, 321,
- 368, 408, 432–33, 435–37,
- 457–58, 462–64, 501
 - high-energy 251–52, 265
 - low-energy 212, 251, 255, 264,
 - 266, 342
- spin fluctuations 24, 244, 267–69,
- 322, 338–39, 357–59, 371,
- 374, 379, 381–82, 385–87,
- 392, 400–1, 407–11, 414
 - low-energy 347, 369, 406–8
- spin gaps 252–54, 258–59,
- 262–63
- spin part 300–1, 314
- spin resonance, incommensurate
- 457–58
- spin splitting 128
- spin susceptibility
 - dynamical 372–73, 389, 407
 - transverse 448, 450, 456,
 - 462–63
 - uniform 337–38
- spin wave excitations 253, 457,
- 489, 492–93, 497, 501, 506
- spin waves 249, 251–53, 264, 435,
- 437, 448, 456–58, 462–64,
- 467, 496, 502
- superconducting compounds 209,
- 223
- superconducting condensate 175,
- 210, 215–16, 227, 229

- superconducting dome 93, 146, 149, 152, 159, 467
- superconducting energy gap 214, 222–23, 338
- superconducting gap 95–96, 98–102, 105–6, 110, 119–20, 216–18, 221–22, 224, 284–86, 327, 332, 379–82, 386–89, 391–92, 410–11
- superconducting gap function 303, 305, 415
- superconducting gap size 97, 100, 102, 106, 221
- superconducting LiFeAs 332
- superconducting materials 41, 246, 416
- superconducting mechanism 99, 104, 322, 337, 339, 474
- superconducting state 18, 99–100, 102, 111, 175–76, 209–10, 220, 224–25, 229–30, 256–57, 263–64, 275, 281–83, 303, 325
- superconducting temperatures 131, 149–50, 152
- superconducting transition 39, 60, 63, 68, 81, 228
- superconducting transition temperature 59, 184, 213
- superconductivity 1–3, 11–13, 15, 17–21, 24–25, 90, 149–50, 155–56, 161–63, 255–56, 305–7, 346–50, 357–59, 385–89, 406–7
 - high- T_c 112, 244, 269, 276, 298, 332, 347
 - unconventional 119, 122, 149, 155, 158, 256, 317, 413, 417
- superconductors 3–4, 11, 15, 21–22, 25–26, 41–42, 119, 125–26, 131–32, 152–53, 172, 174–75, 277–78, 282, 325–26
 - cuprate 2, 6, 19, 23–25, 30, 41, 54, 150, 153, 347
 - high-temperature 121–23, 132, 156
 - iron pnictide 27, 125–26, 128, 130–32, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154
 - pnictide 2, 65, 101, 146, 148, 150, 152
 - s-wave 282, 284–85, 303
 - unconventional 126, 131, 149, 152, 176, 226, 257, 261, 264, 284, 287, 303
- susceptibility matrix 369, 372, 449, 451, 460
- SW (spectral weight) 95, 173, 175, 188–89, 192, 195, 197, 199, 201, 206, 213, 220, 228–29
- SW ratio 199–200
- SW transfer 199–201, 206, 228
- TEM (transmission electron microscopy) 80, 223, 225
- thin films 1, 27–28, 32–39, 217, 231
- transition temperatures 54, 61, 77, 101, 311, 358, 474, 477–80, 482, 505
- transmission electron microscopy *see* TEM
- unfolded Brillouin zone 21, 294, 362–63, 365, 369, 374, 388, 392–93, 396–97, 409, 416, 432
- Weiss temperature 316, 322–23