

Cambridge University Press

978-1-107-05265-9 - Nearest Star: The Surprising Science of Our Sun: Second Edition

Leon Golub and Jay M. Pasachoff

Index

[More information](#)

Index

- Abbot, C. G., 49, 240
 ACRIM, 51
 activity cycle, 43
 Adhémar, J., 233, 234
 Agassiz, L., 231
 AIA, 157, 203, 264
 alchemy, 224
 Alpher, R., 41
 anomalistic month, 134
 Antarctic ozone, 269
 atmosphere
 circulation, 220
 Doldrums, 220
 flow, 218
 heating, 217
 thickness, 217
 Trade Winds, 220
 Westerlies, 220
 atmospheric attenuation, 107
 ATST, 17
 auroral electrojet, 256
 auroral oval, 256
 auroras, 255

 Bappu, M. K. V., 99
 Bartels, J., 249
 Bethe, H., 41
 Biermann, L., 175
 Big Bang, 1
 Borexino, 118

 Bowen, I., 163
 Brahe, Tycho, 106
 Brooks, C., 239
 Buckland, Rev. Wm., 232
 butterfly diagram, 46

 calcium K-line, 93
 carbon cycle, 244
 carbon dating, 223
 carbon dioxide, 243
 carbon-14, 223–227
 Carrington, R., 46
 CFCs, 269
 Chapman, S., 175, 252
 chromosphere, 79–102
 flash spectrum, 81
 chromospheric network, 90
 Clark Lake, 19
 climate, 211–230
 carbon cycle, 244
 greenhouse effect, 245
 industrial effects, 242
 seasons, 221
 thermal balance, 216
 variations, 222
 climate change, 240
 climate system, 212
 CME, 264
 continental drift, 236
 convection, 70

- Coriolis force, 219
 Coriolis, G., 219
 corona, 25, 107–113, 158–168, 177
 components, 166
 EUV, 166
 plasma, 110
 spectrum, 168
 X-ray, 166
 coronagraph, 25
 coronal mass ejections, 264
 CORONAS, 202
 CORONAS-PHOTON, 202
 coronium, 159
 Cowan, C. L., 115
 Croll, J., 235
 Culgoora, 19
 cycle, 43
- D₃, 84
 diffraction grating, 25
 Doldrums, 220
 draconic month, 134
 dynamo, 127
- E-corona, 166
 early universe, 1
 eclipse, 25, 128
 geometry, 129
 observations, 128
 Eddy, John, 47
 Edlén, B., 163
 EIS, 168, 200
 EIT, 88
 El Niño, 245
 ENSO, 245
 ERBS, 51
 erratics, 231
 EUV, 166
 EVE, 203
 exoplanets, 29
 Explorer-1, 260
 Explorer-10, 176
- F-corona, 166
 faculae, 76
 faint young Sun, 228
 filament eruption, 102, 113
 filigree, 71
 flare, 110
 solar, 261
- flash spectrum, 81
 Fraunhofer, J., 2, 21
 Friedman, H., 174
- Galileo, G., 43, 106
 GALLEX, 118
 Gamow, G., 41
 general circulation, 220
 Giacconi, B., 174
 global temperatures, 242
 global warming, 238
 GONG, 78, 124
 Grand Maximum, 239
 granulation, 71, 177
 greenhouse effect, 216, 221,
 228, 245
 Gringauz, K. I., 176
 Grotrian, W., 163
- H-R diagram, 32
 Hadley circulation, 219
 Hale, G. E., 43
 HAO, 17
 Harkness, W., 159
 Heaviside, O., 173
 Heliophysics Roadmap, 188
 helioseismology, 115, 121–127
 helium, 83, 160
 helium D₃, 84
 helium flash, 53
 Helmholtz, H., 35
 Hi-C, 205, 207
 Hinode, 196–202
 EIS, 201
 SOT, 202
 XRT, 200
 HMI, 203
 Hulbert, E. O., 174
- Ice Ages, 229, 230
 Ice Era, 229
 IMAGE, 191
 infrared, 107
 Inouye Solar Telescope, 17
 ionosphere, 173, 264,
 265
 IRIS, 209
- Janssen, P., 83, 159
 JVLA, 19

Cambridge University Press

978-1-107-05265-9 - Nearest Star: The Surprising Science of Our Sun: Second Edition

Leon Golub and Jay M. Pasachoff

Index

[More information](#)

- K-corona, 166
 K-line, 93
 Köppen, W., 236
 Kant, I., 35
 Kelvin, Lord, 35
 Kennely, A., 173
 Kepler, J., 106
 Kitt Peak National Observatory, 17
 Kuzin, S., 202
- Lake Victoria, 239
 Lamb, H. H., 211
 Laplace, P., 35
 LASCO, 101, 171, 264
 launch vehicle, 180
 Lebedev Physical Institute, 176, 202
 limb darkening, 59
 Little Ice Age, 239
 Living With A Star, 187
 Lockyer, N., 84
 Lunik-2, 176
 LWS, 187, 203
 Lyell, Charles, 232
- M-regions, 249
 magnetic dynamo, 127
 magnetic field, 177
 magnetic reconnection, 257, 263
 magnetopause, 257
 magnetosphere
 terrestrial, 252
 main sequence, 33
 Mandel'shtam, S.L., 176
 Marconi, G., 173
 Mariner-2, 176
 Maunder Minimum, 46
 Mayer, J., 34
 McMath-Pierce Solar Telescope, 17
 MDI, 124, 127
 Medieval Grand Maximum, 239
 Menzel, D., 81
 mesosphere, 264, 265
 Milankovitch cycle, 232–236
 Milankovitch, M., 230–236
- Nançay, 19
 NAOJ, 19
 NASA, 174, 187
 OSS, 187
 National Solar Observatory, 17
- Naval Research Laboratory, 174
 Neugebauer, M., 176
 neutrino experiments, 118
 neutrino problem, 115–121
 neutrinos, 115
 MSW effect, 121
 Newton, I., 21
 NOAA, 248
 Nobeyama Solar Radio Observatory, 19
 nodical month, 134
 Northern Lights, 255
 nuclear burning, 281
 nuclear fusion, 39
 NWS, 248
- obliquity, 237
 Office of Space Science, 187
 orbit
 eccentricity, 237
 orbital parameters, 237
 orbital precession, 237
 ozone, 269
- parallax, 8
 Parker, E., 175, 252
 Pauli, W., 115
 penumbra, 177
 photosphere, 57, 177
 composition, 67
 convective motions, 70
 faculae, 76
 filigree, 71
 granulation, 71
 spectrum, 2, 62
 temperature, 60
 plasma, 110
 Popper, K., 232, 235
 precession, 234, 237
 prominence, 99
 proton-proton chain, 281
- quantum tunneling, 40
 quaternary variations, 230
 Ice Ages, 230
 Milankovitch cycle, 232
- radiation belts, 257
 Radio Engineering Institute, 176
 radioheliograph, 19
 RBSP, 188

- reconnection, 257, 263
 red giant phase, 53
 Reines, F., 115
 RHESSI, 189
 Richard B. Dunn Solar Telescope, 17
 ring current, 261
 Rossi, B., 174, 176
 runaway greenhouse, 245
- SAA, 261
 Sacramento Peak Observatory, 17
 Sagan, C., 228
 SAGE, 118
 saros, 131–134
 Scheiner, C., 43
 SDO, 92, 102, 156, 157, 188, 203–204, 264
 AIA, 203
 EVE, 203
 HMI, 203
 SEC, 187
 seismology, 121
 Skylab, 102
 Skywave, 173
 Smithsonian Institution, 240
 SNO, 121
 Snyder, C., 176
 SOHO, 156, 171, 264
 SOI, 124
 solar activity, 43
 solar constant, 49
 solar cycle, 43, 79
 butterfly diagram, 46
 Solar Dynamics Observatory – see SDO
 solar flare, 110, 261
 Solar Probe Plus, 204
 solar system, 2
 solar wind, 249
 SOT, 201
 sounding rocket, 180
 launch, 182
 South Atlantic Anomaly, 261
 space observations, 169–208
 space observatory, 180
 space weather, 248
 forecasts, 248
 solar causes, 248
 spacecraft, 180
 spectrograph, 23, 25
 spectroscopy, 19
 spectrum, 2
 spicules, 90
- SPP, 204
 Sputnik-2, 176, 260
 STEREO, 101, 102, 194
 stratosphere, 265
 Sudbury Neutrino Observatory, 121
 Sun
 activity, 43
 age, 34
 chromosphere, 79
 composition, 5
 corona, 107–113
 distance, 8
 early, 42, 228
 eclipse, 25
 helioseismology, 115
 interior, 115
 luminosity, 6, 12
 mass, 4
 mass ejections, 264
 neutrinos, 115
 nuclear burning, 36
 parallax, 6
 photosphere, 57–79
 physical parameters, 2
 size, 4
 solar flare, 261
 solar models, 42
 solar wind, 249
 surface temperature, 12
 Sun–Earth Connection program, 187
 sunspot, 177
 cycle, 43
 penumbra, 177
 umbra, 177
 sunspot cycle, 43
 sunspots, 43
 Super-Kamiokande, 118
 supergranulation, 76
 SWPC, 248
 synodic month, 134
 syzygy, 129
- T-corona, 166
 telescopes, 13
 temperature
 global, 242
 TESIS, 202
 thermal balance, 216
 thermosphere, 265
 Thomson, W., 35
 TIMED, 192

Cambridge University Press

978-1-107-05265-9 - Nearest Star: The Surprising Science of Our Sun: Second Edition

Leon Golub and Jay M. Pasachoff

Index

[More information](#)

TRACE, 88, 177, 187
Trade Winds, 220
transition region, 105
transits of Venus, 8
triple alpha process, 53
troposphere, 265

UARS, 51
ultraviolet, 107, 166
umbra, 177

Van Allen belts, 260
Van Allen Probes, 188, 261
Van Allen, J., 260

Waterston, J., 34
Wegener, A., 236
Westerlies, 220
Wilson, O., 49, 99
Wilson-Bappu effect, 99
Wollaston, W., 21

X-ray, 107
XRT, 156, 168, 198

Young, C. A., 159

Zeeman effect, 43
Zeeman, P., 43