

References

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A. Thermal and Physical Parameters

- [1] Göran Åkerström, Hakan Pertoft, Lars Grimelius, and Henry Johansson. Density determinations of human parathyroid glands by density gradients. *Acta Pathologica Microbiologica Scandinavica Section A Pathology*, 87A(1-6):91–96, 1979.
- [2] P.L. Altman and D.S. Dittmer. *Biological handbooks. Blood and other body fluids*. 1961.
- [3] G. Barker, R. D. H. Boyd, S. W. D’Souza, P. Donnai, H. Fox, and C. P. Sibley. Placental water content and distribution. *Placenta*, 15(1):47–56, 1994.
- [4] R. J. Barnes, R. S. Comline, and A. Dobson. Changes in the blood flow to the digestive organs of sheep induced by feeding. *Experimental Physiology*, 68(1):77–88, 1983.
- [5] Zia Esmail Begui. Acoustic properties of the refractive media of the eye. *The Journal of the Acoustical Society of America*, 26(3):365–368, 1954.
- [6] P. Bernardi, M. Cavagnaro, S. Pisa, and E. Piuzzi. Specific absorption rate and temperature elevation in a subject exposed in the far-field of radio-frequency sources operating in the 10-900 MHz range. *IEEE Transactions on Biomedical Engineering*, 50(3):295–304, 2003.
- [7] <http://www.biowater.com/store/pg/15-Fluid-Systems-of-the-Body.aspx>.
- [8] S. Bisdas, M. Baghi, J. Wagenblast, R. Knecht, C. H. Thng, T. S. Koh, and T. J. Vogl. Differentiation of benign and malignant parotid tumors using deconvolution-based perfusion CT imaging: feasibility of the method and initial results. *European Journal of Radiology*, 64(2):258–265, 2007.
- [9] P. L. Blanton and N. L. Biggs. Density of fresh and embalmed human compact and cancellous bone. *American Journal of Physical Anthropology*, 29(1):39–44, 1968.

- [10] H. F. Bowman, E. G. Cravalho, and M. Woods. Theory, measurement, and application of thermal properties of biomaterials. *Annual Review of Biophysics and Bioengineering*, 4(1):43–80, 1975.
- [11] Julian D. Boyd, Charles L. Drain, and Martin L. Deakins. Method for determining the specific gravity of dentin and its application to permanent and deciduous teeth. *Journal of Dental Research*, 17(6):465–469, 1938. Publisher: SAGE Publications Inc.
- [12] W.S. Brown, W.A. Dewey, and H.R. Jacobs. Thermal properties of teeth. *Journal of Dental Research*, 49(4):752–755, 1970. Publisher: SAGE Publications Inc.
- [13] Margaret A. Brownlow, D.R. Hutchins, and K. G. Johnston. Reference values for equine peritoneal fluid. *Equine Veterinary Journal*, 13(2):127–130, 1981.
- [14] R. Calttenburg, J. Cohen, S. Conner, and N. Cook. Thermal properties of cancellous bone. *Journal of Biomedical Materials Research*, 9(2):169–182, 1975.
- [15] Joseph Caprioli, Marvin Sears, and Alden Mead. Ocular blood flow in phakic and aphakic monkey eyes. *Experimental Eye Research*, 39(1):1–7, 1984.
- [16] S. O. Chung and K. H. Partk. Clinical studies on biometrics of the placenta. *Yonsei Med Journal*, 15(2):92–102, 1974.
- [17] Charles E. Clauser, John T. McConville, and J. W. Young. Weight, volume, and center of mass of segments of the human body. Technical report, Defense Technical Information Center, Fort Belvoir, VA, 1969. link with DOI not working.
- [18] C. M. Collins, W. Liu, J. Wang, R. Gruetter, J. T. Vaughan, K. Ugurbil, and M. B. Smith. Temperature and SAR calculations for a human head within volume and surface coils at 64 and 300 MHz. *Journal of Magnetic Resonance Imaging*, 19(5):650–656, 2004.
- [19] ESHO Taskgroup Committee. Treatment planning and modelling in hyperthermia, a task group report of the european society of hyperthermic oncology (Rome: Tor Vergata). 1992.
- [20] T.E. Cooper and G.J. Trezek. A probe technique for determining the thermal conductivity of tissue. *ASME Journal of Heat and Mass Transfer*, 92(2):133–140, 1972.
- [21] B Danilewsky. Zentralblatt für die medicinischen wissenschaften. *Zentralblatt für die medicinischen Wissenschaften*, 14:241–245, 1863.

- [22] John Davy. On the specific gravity of the different parts of the human body. *Transactions. Medico-Chirurgical Society of Edinburgh*, 3(Pt 2):435–447, 1829.
- [23] C. De Bazelaire, N. M. Rofsky, G. Duhamel, M. D. Michaelson, D. George, and D. C. Alsop. Arterial spin labeling blood flow magnetic resonance imaging for the characterization of metastatic renal cell carcinoma. *Academic Radiology*, 12(3):347–357, 2005.
- [24] J. P. Delille, P. J. Slanetz, E. D. Yeh, D. B. Kopans, and L. Garrido. Breast cancer: regional blood flow and blood volume measured with magnetic susceptibility-based MR imaging - initial results. *Radiology*, 223(2):558–565, 2002.
- [25] F. A. Duck. *Physical properties of tissue: a comprehensive reference book*, volume 18. Medical Physics, London, 1990.
- [26] K. R. Duncan, P. Gowland, S. Francis, R. Moore, P. N. Baker, and I. R. Johnson. The investigation of placental relaxation and estimation of placental perfusion using echo-planar magnetic resonance imaging. *Placenta*, 19(7):539–543, 1998.
- [27] K. R. Duncan, B. Issa, R. Moore, P. N. Baker, I. R. Johnson, and P. A. Gowland. A comparison of fetal organ measurements by echo planar magnetic resonance imaging and ultrasound. *International Journal of Obstetrics and Gynaecology*, 112(1):43–49, 2005.
- [28] http://www.engineeringtoolbox.com/{/}thermal{-}conductivity{-}liquids-d{-}_1260.html.
- [29] Włodzimierz S. Erdmann and Tomasz Gos. Density of trunk tissues of young and medium age people. *Journal of Biomechanics*, 23(9):945–947, 1990.
- [30] I. S. Fraser, G. McCarron, B. Hutton, and D. Macey. An evaluation of two inert gas clearance techniques for measurement of endometrial blood flow in women. *Acta Obstetrica et Gynecologica Scandinavica*, 66(6):551–557, 1996.
- [31] *Documenta Geigy, Scientific Tables*. Karger, 5 edition, 1959.
- [32] J. V. Geleskie and K. K. Shung. Further studies on acoustic impedance of major bovine blood vessel walls. *The Journal of the Acoustical Society of America*, 71(2):467–470, 1982. Publisher: Acoustical Society of America.
- [33] Piero Giacosa. Recherche chimiche sul vitreo dell’occhio umano. *Archivio per le Scienze Mediche*, 6:29–33, 1883.

- [34] K. Giering, I. Lamprecht, O. Minet, and A. Handke. Determination of the specific heat capacity of healthy and tumorous human tissue. *Thermochimica Acta*, 251:199–205, 1995.
- [35] J. K. Gong, J. S. Arnold, and S. H. Cohn. Composition of trabecular and cortical bone. *The Anatomical Record*, 149(3):325–331, 1964.
- [36] P. Gowland, S. Francis, K. Duncan, A. Freeman, B. Issa, R. Moore, R. Bowtell, P. Baker, I. Johnson, and B. Worthington. *In vivo* perfusion measurements in the human placenta using echo planar imaging at 0.5 T. *Magnetic Resonance in Medicine*, 104(3):467–473, 1998.
- [37] G. Grimby, E. Haggendal, and B. Saltin. Local xenon 133 clearance from the quadriceps muscle during exercise in man. *Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology*, 22(2):305–310, 1967.
- [38] Hervé Guenard, Mamadou H. H. Diallo, François Laurent, and Jean Vergeret. Lung density and lung mass in emphysema. *CHEST*, 102(1):198–203, 1992.
- [39] J. Guenette, I. Vogiatzis, S. Zakynthinos, D. Athanasopoulos, M. Koskoulou, S. Golemati, M. Vasilopoulou, H. Wagner, C. Roussos, P. Wagner, and R. Boushel. Human respiratory muscle blood flow measured by near-infrared spectroscopy and indocyanine green. *Journal of Applied Physiology*, 104(4):1202–1210, 2008.
- [40] H. T. Haden, P. G. Katz, T. Mulligan, and N. D. Zasler. Penile blood flow by xenon-133 washout. *Journal of Nuclear Medicine*, 30(6):1032–1035, 1989.
- [41] T. Haku, T. Hosoya, A. Komatani, T. Honma, Y. Sugai, M. Adachi, and K. Yamaguchi. Regional cerebral blood flow of the basal ganglia and thalamus measured using Xe-CT. *Nō to shinkei*, 52(3):231–235, 2000.
- [42] G. Hamilton. Investigations of the thermal properties of human and animal tissues. *PhD thesis*, University of Glasgow, 1998.
- [43] J. W. Hand, Y. Li, and J. V. Hajnal. Numerical study of RF exposure and the resulting temperature rise in the fetus during a magnetic resonance procedure. *Physics in Medicine and Biology*, 55:913–930, 2010.
- [44] Chester J. Henschel. Heat impact of revolving instruments on vital dentin tubules. *Journal of Dental Research*, 22(4):323–333, 1943.
- [45] H. Hinghofer-Szalkay and J. Greenleaf. Continuous monitoring of blood volume changes in humans. *Journal of Applied Physiology*, 63(3):1003–1007, 1985.

- [46] K. R. Holmes. Thermal properties. <http://users.ece.utexas.edu/~valvano/research/Thermal.pdf>, 2009.
- [47] K. R. Holmes, W. Ryan, and M. M. Chen. Thermal conductivity and H₂O content in rabbit kidney cortex and medulla. *Journal of Thermal Biology*, 8(4):311–313, 1983.
- [48] H. K. Huang and S. C. Wu. The evaluation of mass densities of the human body in vivi from ct scans. *Computers in Biology and Medicine*, 6(4):337–343, 1976.
- [49] ICRP. *Report of the task group on reference man*. Number 23 in ICRP Publication. Pergamon Press, Oxford, 1975.
- [50] ICRP/22/136/01. Basic anatomical and physiological data for use in radiological protection: reference values. *REM Task Group ICRP Committee 2*, 89, 2001.
- [51] I. Jansson. Xenon clearance in the myometrium of pregnant and non-pregnant women. *Acta Obstetrica et Gynecologica Scandinavica*, 48(3):302–321, 1969.
- [52] S. J. Jeong, K. Park, J. D. Moon, and S. B. Ryu. Bicycle saddle shape affects penile blood flow. *International Journal of Impotence Research*, 14(6):513–517, 2002.
- [53] H. John, S. Suter, and D. Hauri. Effect of radical prostatectomy on urethral blood flow. *Urology*, 59(4):566–569, 2002.
- [54] K. Kadoya, N. Matsunaga, and A. Nagashima. Viscosity and thermal conductivity of dry air in the gaseous phase. *Journal of Physical and Chemical Reference Data*, 14(4):947–196, 1985.
- [55] G. Kell. Density, thermal expansivity, and compressibility of liquid water from 0°C to 150°C: Correlations and tables for atmospheric pressure and saturation reviewed and expressed on 1968 temperature scale. *Journal of Chemical Engineering Data*, 20(1):97–105, 1975.
- [56] Ancel Keys and Josef Brozek. Body Fat in Adult Man. *Physiological Reviews*, 33(3):245–325, 1953.
- [57] I. Klingenberg. The effect of radium on blood flow in the human uterine cervix measured by local hydrogen clearance. *Acta Obstetrica et Gynecologica Scandinavica*, 53(1):7–11, 1974.
- [58] W Krause and L Fisher. Neue bestimmungen des specifischen gewichts von organen und gewebe des menschlichen körpers. *Zeitschrift für Rationelle Medicin*, 26:306–334, 1879. Google-Books-ID: mtAoo6xYGXUC.

- [59] J. Kuikka, K. Käär, P. Jouppila, T. Pyörälä, and A. Rekonen. An intravenous ^{133}Xe method for measuring regional distribution of placental blood flow. *Acta Obstetricia et Gynecologica Scandinavica*, 57(3):249–251, 1978.
- [60] Morris Leider and Constance Millette Buncke. Physical dimensions of the skin : Determination of the specific gravity of skin, hair, and nail. *AMA Arch Derm Syphilol*, 69(5):563, 1954.
- [61] K. H. Leissner and L. E. Tisell. The weight of the human prostate. *Scandinavian Journal of Urology and Nephrology*, 13(2):137–142, 1979.
- [62] G. Li, J. T. Bronk, and P. J. Kelly. Canine bone blood flow estimated with microspheres. *Journal of Orthopaedic Research*, 7(1):61–67, 1989.
- [63] Richard S. Manly, Harold C. Hodge, and Louise E. Ange. Density and refractive index studies of dental hard tissues: Ii. density distribution curves 1,2. *Journal of Dental Research*, 18(3):203–211, 1939.
- [64] Hisashi Masugata, Katsufumi Mizushige, Shoichi Senda, Aki Kinoshita, Haruhiko Sakamoto, Seiji Sakamoto, and Hirohide Matsuo. Relationship between myocardial tissue density measured by microgravimetry and sound speed measured by acoustic microscopy. *Ultrasound in Medicine Biology*, 25(9):1459–1463, 1999.
- [65] R. L. McIntosh and V. Anderson. A comprehensive tissue properties database provided for the thermal assessment of a human at rest. *Biophysical Reviews and Letters*, 5(3):129–151, 2010.
- [66] N. Mechanik. Untersuchungen über das gewicht des knochenmarkes des menschen. *Zeitschrift für Anatomie und Entwicklungsgeschichte*, 79(1):58–99, 1926.
- [67] R. Montgomery. Viscosity and thermal conductivity of air and diffusivity of water vapor in air. *Journal of Meteorology*, 4:193–196, 1947.
- [68] W. I. Morse and J. Stuart Soeldner. The non-adipose body mass of obese women: Evidence of increased muscularity. *Canadian Medical Association Journal*, 90(12):723–725, 1964.
- [69] O. Munck, H. Lysgaard, G. Pontonnier, H. Lefevre, and N. A. Lassen. Measurement of blood-flow through uterine muscle by local injection of ^{133}Xe . *The Lancet*, 283(7348):1421–1421, 1964.
- [70] E.E. Murihead, M.H. Grow, and A.T. Walker. Practical observation on the copper sulfate method for determining the specific gravities of whole blood and serum. *Surgery, Gynecology and Obstetrics*, 82:405–413, 1946.

- [71] M. Nakase, K. Okumura, T. Tamura, T. Kamei, K. Kada, S. Nakamura, M. Inui, and T. Tagawa. Effects of near-infrared irradiation to stellate ganglion in glossodynia. *Oral Diseases*, 10(4):217–220, 2004.
- [72] Carl R. Naver. Hyperphysics - thermal conductivity.
- [73] J. Olsrud, B. Friberg, M. Ahlgren, and B. R. R. Persson. Thermal conductivity of uterine tissue *in vitro*. *Physics in Medicine and Biology*, 43:2397–2406, 1998.
- [74] S. Özen, S. Çomlekçi, O. Çerezci, and Ö. Polat. Electrical properties of human eye and temperature increase calculation at the cornea surface for RF exposure. *Paper Web, Istanbul*, 2003.
- [75] P. Pantano, J. C. Baron, P. Lebrun-Grandie, N. Duquesnoy, M. G. Bousser, and D. Comar. Regional cerebral blood flow and oxygen consumption in human aging. *Stroke*, 15(4):635–641, 1984.
- [76] G. H. Parsons, G. C. Kramer, D. P. Link, B. M. T. Lantz, R. A. Gunther, J. F. Green, and C. E. Cross. Studies of reactivity and distribution of bronchial blood flow in sheep. *Chest*, 87(5):180–182, 1985.
- [77] <http://www.ptb.de/cms/en/publikationen/zeitschriften/ptb-news/news00-3/microlitre-dispensing-of-human-blood-serum.html>.
- [78] H. F. Poppendiek, R. Randall, J. A. Breeden, J. E. Chambers, and J. R. Murphy. Thermal conductivity measurements and predictions for biological fluids and tissues. *Cryobiology*, 3(4):318–327, 1967.
- [79] R. P. Rathmacher and L. L. Anderson. Blood flow and progesterone levels in the ovary of cycling and pregnant pigs. *American Journal of Physiology*, 214(5):1014–1018, 1968.
- [80] D. A. Roberts, J. A. Detre, L. Bolinger, E. K. Insko, R. E. Lenkinski, M. J. Pentecost, and J. S. Leigh. Renal perfusion in humans: MR imaging with spin tagging of arterial water. *Radiology*, 196(1):281–286, 1995.
- [81] Robert Robinson, A. Chemical analysis and electron microscopy of bone. *Bone as a Tissue*, pages 165–185, 1958.
- [82] Richard E. Scammon and Meredith B. Hesdorffer. Growth in mass and volume of the human lens in postnatal life. *Archives of Ophthalmology*, 17(1):104–112, 1937.
- [83] K. M. Sekins, D. Dundore, A. F. Emery, J. F. Lehmann, P. W. McGrath, and W. B. Nelp. Muscle blood flow changes in response to 915 MHz diathermy with surface cooling as measured by Xe133 clearance. *Archives of Physical Medicine and Rehabilitation*, 61(3):105–113, 1980.

- [84] M. Shirai, N. Ishii, S. Mitsukawa, S. Matsuda, and M. Nakamura. Hemodynamic mechanism of erection in the human penis. *Archives Andrology*, 1(4):345–349, 1978.
- [85] Léo Testut. *Traité d’anatomie humaine : anatomie descriptive, histologie, développement. Edition 1-2, Tome 3.*, volume 3. Paris, 1889.
- [86] Léo Testut. *Traité d’anatomie humaine : anatomie descriptive, histologie, développement. Tome Deuxieme. Angéiologie, névrologie*, volume 2. Paris, 1893.
- [87] J. Thewlis. X-ray analysis of teeth. *The British Journal of Radiology*, 5(52):353–359, 1932. Publisher: The British Institute of Radiology.
- [88] <http://www-ibt.etec.uni-karlsruhe.de/people/mag/frames/papers/emc99-md/node3.html>.
- [89] J. W. Valvano, J. R. Cochran, and K. R. Diller. Thermal conductivity and diffusivity of biomaterials measured with self-heated thermistors. *International Journal of Thermophysics*, 6(3):301–311, 1985.
- [90] P. Van den Berg, A. de Hoop, A. Segal, and N. Praagman. A computational model of the electromagnetic heating of biological tissue with application to hyperthermic cancer therapy. *IEEE Transactions on Biomedical Engineering*, 30(12):797–805, 1983.
- [91] G. M. J. Van Leeuwen, J. J. W. Lagendijk, B. J. A. M. Van Leersum, A. P. M. Zwamborn, S. N. Hornsleth, and A. N. T. J. Kotte. Calculation of change in brain temperatures due to exposure to a mobile phone. *Physics in Medicine and Biology*, 44(10):2367–2379, 1999.
- [92] <http://vaxasoftware.com>.
- [93] Hermann Vierordt. *Anatomische, physiologische und physikalische Daten und Tabellen : zum Gebrauche fuer Mediziner*. Jena : Fischer, 1906.
- [94] G. Wagner and B. Ottesen. Vaginal blood flow during sexual stimulation. *Obstetrics and Gynecology*, 56(5):621–624, 1980.
- [95] S. M. Weidmann, J. A. Weatherell, and Stella M. Hamm. Variations of enamel density in sections of human teeth. *Archives of Oral Biology*, 12(1):85–97, 1967.
- [96] A. Wein, L. Kavoussi, A. Novick, A. Partin, and C. Peters. *Campbell-Walsh Urologie*, volume 10. Medical Physics, 2012.
- [97] Rene M. Werkmeister, Doreen Schmidl, Gerold Aschinger, Veronika Doblhoff-Dier, Stefan Palkovits, Magdalena Wirth, Gerhard Garhöfer, Robert A. Linsenmeier, Rainer A. Leitgeb, and Leopold Schmetterer. Retinal oxygen extraction in humans. *Scientific Reports*, 5(1):15763, 2015.

- [98] J. K. Williams, M. L. Armstrong, and D. D. Heistad. Vasa vasorum in atherosclerotic coronary arteries: responses to vasoactive stimuli and regression of atherosclerosis. *Circulation Research*, 67:515–523, 1988.
- [99] L. R. Williams and R. W. Leggett. Reference values for resting blood flow to organs of man. *Clinical Physics and Physiological Measurement*, 10:187–217, 1989.
- [100] H. Wolf. Microlitre dispensing of human blood serum.
- [101] H. Q. Woodard and D. R. White. The composition of body tissues. *British Journal of Radiology*, 59(708):1209–1218, 1986.
- [102] C. H. Wu, D. C. Lindsey, D. L. Traber, C. E. Cross, D. N. Herndon, and G. C. Kramer. Measurement of bronchial blood flow with radioactive microspheres in awake sheep. *Journal of Applied Physiology*, 65(3):1131–1139, 1988.
- [103] L. X. Xu, L. Zhu, and K. R. Holmes. Thermoregulation in the canine prostate during transurethral microwave hyperthermia, part II: blood flow response. *International Journal of Hyperthermia*, 14(1):65–73, 1998.
- [104] M.K. Younoszai and J.C. Haworth. Placental dimensions and relations in preterm, term, and growth-retarded infants. *American Journal of Obstetrics and Gynecology*, 103(2):265–271, 1969.

B. Frequency-Dependent Parameters

- [105] <http://niremf.ifac.cnr.it/docs/DIELECTRIC/AppendixC.html>.
- [106] C. Gabriel. Compilation of the dielectric properties of body tissues at RF and microwave frequencies. *Report N.AL/OE-TR-1996-0004*, Brooks Air Force Base, 1996.
- [107] C. Gabriel, S. Gabriel, and E. Corthout. The dielectric properties of biological tissues: I. literature survey. *Physics in Medicine and Biology*, 41(11):2231–2249, 1996.
- [108] S. Gabriel, R. W. Lau, and C. Gabriel. The dielectric properties of biological tissues: II. measurements in the frequency range of 10 Hz to 20 GHz. *Physics in Medicine and Biology*, 41(11):2251–2269, 1996.
- [109] S. Gabriel, R. W. Lau, and C. Gabriel. The dielectric properties of biological tissues: III. parametric models for the dielectric spectrum of tissues. *Physics in Medicine and Biology*, 41(11):2271–2293, 1996.
- [110] A. Peyman and C. Gabriel. Cole-cole parameters for the dielectric properties of porcine tissues as a function of age at microwave frequencies. *Physics in Medicine and Biology*, 55(7):N413–N419, 2010.
- [111] A. Peyman and C. Gabriel. Dielectric properties of porcine glands, gonads and body fluids. *Physics in Medicine and Biology*, 57(19):N339–N344, 2012.
- [112] Kensuke Sasaki, Kanako Wake, and Soichi Watanabe. Development of best fit cole-cole parameters for measurement data from biological tissues and organs between 1 mhz and 20 ghz. *Radio Science*, 49(7):459–472, 2014.

C. Low-Frequency Conductivity

- [113] <http://niremf.ifac.cnr.it/docs/DIELECTRIC/AppendixC.html>.
- [114] M. Akhtari, H.C. Bryant, D. Emin, W. Merrifield, A.N. Mamelak, E.R. Flynn, J.J. Shih, M. Mandelkern, A. Matlachov, D.M. Ranken, E.D. Best, M.A. DiMauro, R.R. Lee, and W.W. Sutherling. A Model for Frequency Dependence of Conductivities of the Live Human Skull. *Brain Topography*, 16(1):39–55, 2003.
- [115] M. Akhtari, D. Emin, B. M. Ellingson, D. Woodworth, A. Frew, and G. W. Mathern. Measuring the local electrical conductivity of human brain tissue. *Journal of Applied Physics*, 119(6):064701, 2016.
- [116] M. Akhtari, M. Mandelkern, D. Bui, N. Salamon, H. V. Vinters, and G. W. Mathern. Variable Anisotropic Brain Electrical Conductivities in Epileptogenic Foci. *Brain Topography*, 23(3):292–300, 2010.
- [117] M. Akhtari, N. Salamon, R. Duncan, I. Fried, and G. W. Mathern. Electrical conductivities of the freshly excised cerebral cortex in epilepsy surgery patients; correlation with pathology, seizure duration, and diffusion tensor imaging. *Brain Topography*, 18(4):281–290, 2006.
- [118] H. Y. Yacoob Aldosky and S. M. H. Shamdeen. A new system for measuring electrical conductivity of water as a function of admittance. *Journal of Electrical Bioimpedance*, 2(1):86–92, 2011.
- [119] T. Aoki, A. Watanabe, N. Nitta, T. Numano, M. Fukushi, and M. Nitsui. Correlation between apparent diffusion coefficient and viscoelasticity of articular cartilage in a porcine model. *Skeletal Radiology*, 41(9):1087–1092, 2012.
- [120] S. B. Baumann, D. R. Wozny, S. K. Kelly, and F.M. Meno. The electrical conductivity of human cerebrospinal fluid at body temperature. *IEEE Transactions on Biomedical Engineering*, 44(3):220–223, 1997.
- [121] U. Baysal and J. Haueisen. Use of a priori information in estimating tissue resistivities —application to human data *in vivo*. *Physiological measurement*, 25(3):737, 2004.
- [122] J. S. Binette, M. Garon, P. Savard, M. D. McKee, and M. D. Buschmann. Tetrapolar Measurement of Electrical Conductivity and Thickness of Articular Cartilage. *Journal of Biomechanical Engineering*, 126(4):475–484, 2004.
- [123] H. C. Burger and R. van Dongen. Specific Electric Resistance of Body Tissues. *Physics in Medicine and Biology*, 5(4):431–447, 1961.

- [124] M. Chauhan, A. Indahlastari, A. K. Kasinadhuni, M. Schär, T. H. Mareci, and R. J. Sadleir. Low-frequency conductivity tensor imaging of the human head *In Vivo* using dt-mreit: First study. *IEEE Transactions on Medical Imaging*, 37(4):966–976, 2018.
- [125] J. Cinca, M. Warren, A. Carreño, M. Tresàñchez, L. Armadans, P. Gomez, and J.. Soler-Soler. Changes in myocardial electrical impedance induced by coronary artery occlusion in pigs with and without preconditioning. *Circulation*, 96:3079–3086, 1997.
- [126] M. Clerc, G. Adde, J. Kybic, T. Papadopoulos, and J-M.l Badier. *In vivo* Conductivity Estimation with Symmetric Boundary Elements. 7(1):4, 2005.
- [127] D. Cohen and B. N. Cuffin. Demonstration of useful differences between magnetoencephalogram and electroencephalogram. *Electroencephalography and clinical neurophysiology*, 1983.
- [128] Juhani Dabek, Konstantina Kalogianni, Edwin Rotgans, Frans C. T. van der Helm, Gert Kwakkel, Erwin E. H. van Wegen, Andreas Daffertshofer, and Jan C. de Munck. Determination of head conductivity frequency response *in vivo* with optimized EIT-EEG. *NeuroImage*, 127:484–495, 2016.
- [129] M. Dannhauer, B. Lanfer, C. H. Wolters, and T. R. Knoesche. Modeling of the human skull in EEG source analysis. *Human Brain Mapping*, 32(9):1383–1399, 2011.
- [130] S. K. de Visser, R. W. Crawford, and J. M. Pope. Structural adaptations in compressed articular cartilage measured by diffusion tensor imaging. *Osteoarthritis and Cartilage*, 16(1):83–89, 2008.
- [131] M. I. Ellenby, K. W. Small, R. M. Wells, D. J. Hoyt, and J. E. Lowe. On-line Detection of Reversible Myocardial Ischemic Injury by Measurement of Myocardial Electrical Impedance. *The Annals of Thoracic Surgery*, 44(6):587–597, 1987.
- [132] B. R. Epstein and K. R. Foster. Anisotropy in the dielectric properties of skeletal muscle. *Medical and Biological Engineering and Computing*, 21(1):51–55, 1983.
- [133] K. J. Eriksen. *In Vivo* Human Head Regional Conductivity Estimation Using A Three-sphere Model. In *[1990] Proceedings of the Twelfth Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, pages 1494–1495, 1990.
- [134] E. M. Essaki Arumugam, S. Turovets, N. Price, D. Rech, P. Luu, and D. Tucker. *In vivo* estimation of scalp and skull conductivity using bEIT for non-invasive neuroimaging and stimulation. *Conference: Brain Stimulation and Imaging Meeting*, 2017.

- [135] D. Facon, A. Ozanne, P. Fillard, J-F. Lepeintre, C. Tournoux-Facon, and D. Ducreux. MR diffusion tensor imaging and fiber tracking in spinal cord compression. *AJNR. American journal of neuroradiology*, 26(6):1587–1594, 2005.
- [136] T. J. Faes, H. A. van der Meij, J. C. de Munck, and R. M. Heethaar. The electric resistivity of human tissues (100 Hz –10 MHz): a meta-analysis of review studies. *Physiological Measurement*, 20(4):1–10, 1999.
- [137] M. A. Fallert, M. S. Mirotznik, S. W Downing, E. B. Savage, K. R. Foster, M. E. Josephson, and D. K. Bogen. Myocardial electrical impedance mapping of ischemic sheep hearts and healing aneurysms. *Circulation*, 87(1):199–207, 1993.
- [138] M. Fernandez-Corazza, S. Turovets, P. Luu, N. Price, C. H. Muravchik, and D. Tucker. Skull Modeling Effects in Conductivity Estimates Using Parametric Electrical Impedance Tomography. *IEEE Transactions on Biomedical Engineering*, 65(8):1785–1797, 2018.
- [139] W. H. Freygang and W. M. Landau. Some relations between resistivity and electrical activity in the cerebral cortex of the cat. *Journal of Cellular Physiology*, 45(3):377–392, 1955.
- [140] C. Gabriel, S. Gabriel, and E. Corthout. The dielectric properties of biological tissues: I. literature survey. *Physics in Medicine and Biology*, 41(11):2231–2249, 1996.
- [141] C. Gabriel, A. Peyman, and E. H. Grant. Electrical conductivity of tissue at frequencies below 1 MHz. *Physics in Medicine and Biology*, 54(16):4863–4878, 2009.
- [142] S. Gabriel, R. W. Lau, and C. Gabriel. The dielectric properties of biological tissues: II. measurements in the frequency range of 10 Hz to 20 GHz. *Physics in Medicine and Biology*, 41(11):2251–2269, 1996.
- [143] S. Gabriel, R. W. Lau, and C. Gabriel. The dielectric properties of biological tissues: III. parametric models for the dielectric spectrum of tissues. *Physics in Medicine and Biology*, 41(11):2271–2293, 1996.
- [144] G Gattellaro, L Minati, M Grisoli, C Mariani, F Carella, M Osio, E Ciceri, A Albanese, and MG Bruzzzone. White matter involvement in idiopathic parkinson disease: a diffusion tensor imaging study. *American Journal of Neuroradiology*, 30(6):1222–1226, 2009.
- [145] L. A. Geddes and L. E. Baker. The specific resistance of biological material - a compendium of data for the biomedical engineer and physiologist. *Medical and biological engineering*, 5(3):271–293, 1967.

- [146] L. A. Geddes and L.E. Baker. The specific resistance of biological material - a compendium of data for the biomedical engineer and physiologist. *Medical and biological engineering*, 5(3):271–293, 1967.
- [147] S. Gonçalves, J. C. de Munck, J. P. A. Verbunt, R. M. Heethaar, and F. H. Lopes da Silva. *In vivo* measurement of the brain and skull resistivities using an EIT-based method and the combined analysis of SEF/SEP data. *IEEE transactions on bio-medical engineering*, 50(9):1124–1128, 2003.
- [148] S. I. Gonçalves, J. C. de Munck, J. P. A. Verbunt, F. Bijma, R. M. Heethaar, and F. Lopes da Silva. *In vivo* measurement of the brain and skull resistivities using an EIT-based method and realistic models for the head. *IEEE Transactions on Biomedical Engineering*, 50(6):754–767, 2003.
- [149] S. Grimmes and O. G. Martinsen. *Bioimpedance and Bioelectricity Basics*. 2nd edition, 2008.
- [150] D. Gullmar, J. Haueisen, and J. R. Reichenbach. Influence of anisotropic electrical conductivity in white matter tissue on the EEG/MEG forward and inverse solution. A high-resolution whole head simulation study. *NeuroImage*, 51(1):145–163, 2010.
- [151] N. Gurler and Yusuf Z. Ider. Gradient-based electrical conductivity imaging using MR phase. *Magnetic Resonance in Medicine*, 77(1):137–150, 2017.
- [152] D. Gutierrez, A. Nehorai, and C. H. Muravchik. Estimating brain conductivities and dipole source signals with EEG arrays. *IEEE transactions on bio-medical engineering*, 51(12):2113–2122, 2004.
- [153] E. M. Haacke, L. S. Petropoulos, E. W. Nilges, and D. H. Wu. Extraction of conductivity and permittivity using magnetic resonance imaging. *Physics in Medicine and Biology*, 36(6):723–734, 1991.
- [154] D. Haemmerich, D.J. Schutt, A. S. Wright, J. G. Webster, and D. M. Mahvi. Electrical conductivity measurement of excised human metastatic liver tumours before and after thermal ablation. *Physiological Measurement*, 30(5):459–466, 2009.
- [155] G. M. Hahn, A. Kernahan, P. and Martinez, D. Pounds, S. Prionas, T. Anderson, and G. Justice. Some heat transfer problems associated with heating by ultrasound microwaves, or radio frequency. *Annals of the New York Academy of Sciences*, 335(1):327–346, 1980.
- [156] R. J. Halter, A. Hartov, J. A. Heaney, and A. R. Paulsen, K. D. Schned. Electrical impedance spectroscopy of the human prostate. *IEEE Transactions on Biomedical Engineering*, 54(7):1321–1327, 2007.

- [157] R. J. Halter, T. Zhou, P. M. Meaney, A. Hartov, R. J. Barth, K. M. Rosenkranz, W. A. Wells, C. A. Kogel, A. Borsic, E. J. Rizzo, and K. D. Paulsen. The correlation of *in vivo* and *ex vivo* tissue dielectric properties to validate electromagnetic breast imaging: initial clinical experience. *Physiological Measurement*, 30(6):S121–136, 2009.
- [158] N. Hampe, M. Herrmann, T. Amthor, C. Findekle, and U. Doneva, M. and Katscher. Dictionary-based electric properties tomography. *Magnetic Resonance in Medicine*, 81(1):342–349, 2019.
- [159] F. X. Hart and W. R. Dunfee. *In vivo* measurement of the low-frequency dielectric spectra of frog skeletal muscle. *Physics in Medicine and Biology*, 38(8):1099–1112, 1993.
- [160] H. S. Hershkovich, N. Urman, O. Yesharim, A. Naveh, and Z. Bomzon. The dielectric properties of skin and their influence on the delivery of tumor treating fields to the torso: a study combining *in vivo* measurements with numerical simulations. *Physics in Medicine and Biology*, 64(18):185014, 2019.
- [161] S. M. Hesseltine, M. Law, J. Babb, M. Rad, S. Lopez, Y. Ge, G. Johnson, and R. I. Grossman. Diffusion tensor imaging in multiple sclerosis: assessment of regional differences in the axial plane within normal-appearing cervical spinal cord. *AJNR. American journal of neuroradiology*, 27(6):1189–1193, 2006.
- [162] A. Hiwatashi, T. Yoshiura, O. Togao, K. Yamashita, K. Kikuchi, K. Kobayashi, M. Ohga, S. Sonoda, H. Honda, and M. Obara. Evaluation of Diffusivity in the Anterior Lobe of the Pituitary Gland: 3D Turbo Field Echo with Diffusion-Sensitized Driven-Equilibrium Preparation. *American Journal of Neuroradiology*, 35(1):95–98, 2014.
- [163] M. Horger, M. Fenchel, Thomas Nägele, R. Moehle, C. D. Claussen, R. Beschorner, and U. Ernemann. Water diffusivity: comparison of primary CNS lymphoma and astrocytic tumor infiltrating the corpus callosum. *AJR. American journal of roentgenology*, 193(5):1384–1387, 2009.
- [164] Y. Huang, A. A. Liu, B. Lafon, D. Friedman, M. Dayan, M. Wang, X. and Bikson, W. K. Doyle, O. Devinsky, and L. C. Parra. Measurements and models of electric fields in the *in vivo* human brain during transcranial electric stimulation. *eLife*, 6, 2017.
- [165] M. Huhndorf, C. Stehning, A. Rohr, M. Helle, U. Katscher, and O. Jansen. (ISMRM 2013) Systematic Brain Tumor Conductivity Study with Optimized EPT Sequence and Reconstruction Algorithm. *Proc. Intl. Soc. Mag. Reson. Med.*, 2013.
- [166] G. H. Jahng, M. B. Lee, H. J. Kim, and O. I. Je Woo, E. and Kwon. Low-frequency dominant electrical conductivity imaging of *in vivo* human brain using high-frequency conductivity at Larmor-frequency and

- spherical mean diffusivity without external injection current. *NeuroImage*, 225:117466, 2021.
- [167] J. Jossinet. The impedivity of freshly excised human breast tissue. *Physiological Measurement*, 19(1):61, 1998.
 - [168] W. H. Jr, Freygang and W. M. Landau. Some relations between resistivity and electrical activity in the cerebral cortex of the cat. *Journal of Cellular and Comparative Physiology*, 45(3):377–392, 1955.
 - [169] V. Juras, M. Bittsansky, Z. Majdisova, and S. Trattnig. *In-Vitro* evaluation of pre- and post-compression states of human articular cartilage using mri at 3 tesla. *JMeasurement Science Review*, 7(5):39–42, 2007.
 - [170] A. Keshtkar, Asghar Keshtkar, and Rod H. S. Electrical impedance spectroscopy and the diagnosis of bladder pathology. *Physiological Measurement*, 27(7):585–596, 2006.
 - [171] D. H. Kim, N. Choi, S. M. Gho, J. Shin, and C. Liu. Simultaneous imaging of *in vivo* conductivity and susceptibility. *Magnetic Resonance in Medicine*, 71(3):1144–1150, 2014.
 - [172] L. Koessler, S. Colnat-Coulbois, T. Cecchin, J. Hofmanis, J. P. Dmochowski, A. M. Norcia, and L. G. Maillard. *In-vivo* measurements of human brain tissue conductivity using focal electrical current injection through intracerebral multicontact electrodes. *Human Brain Mapping*, 38(2):974–986, 2017.
 - [173] J. Latikka, T. Kuurne, and H. Eskola. Conductivity of living intracranial tissues. *Physics in Medicine and Biology*, 46(6):1611–1616, 2001.
 - [174] J. Lee, J. Shin, and D. H. Kim. MR-based conductivity imaging using multiple receiver coils. *Magnetic Resonance in Medicine*, 76(2):530–539, 2016.
 - [175] Seung-Kyun Lee, Selaka Bulumulla, Florian Wiesinger, Laura Sacolick, Wei Sun, and Ileana Hancu. Tissue electrical property mapping from zero echo-time magnetic resonance imaging. *IEEE transactions on medical imaging*, 34(2):541–550, 2015.
 - [176] I Meral and Y. Bilgili. Diffusion Changes in the Vitreous Humor of the Eye during Aging. *American Journal of Neuroradiology*, 32(8):1563–1566, 2011.
 - [177] E. Michel, D. Hernandez, and S. Y. Lee. Electrical conductivity and permittivity maps of brain tissues derived from water content based on T1 -weighted acquisition. *Magnetic Resonance in Medicine*, 77(3):1094–1103, 2017.

- [178] S. N. Mohapatra and D. W. Hill. The changes in blood resistivity with haematocrit and temperature. *European journal of intensive care medicine*, 1(4):153–162, 1975.
- [179] S. N. Mohapatra and D. W. Hill. The changes in blood resistivity with haematocrit and temperature. *European Journal of Intensive Care Medicine*, 1(4):153–162, 1975.
- [180] Y. Morita, S. Suzuki, H. Kondo, and N. Tomita. A feasibility study for evaluation of mechanical properties of articular cartilage with a two-electrode electrical impedance method. *Journal of Orthopaedic Science*, 17(3):272–280, 2012.
- [181] C. Nicholson and J. A. Freeman. Theory of current source-density analysis and determination of conductivity tensor for anuran cerebellum. *Journal of Neurophysiology*, 38(2):356–368, 1975.
- [182] P. W. Nicholson. Specific impedance of cerebral white matter. *Experimental Neurology*, 13(4):386–401, 1965.
- [183] T. F. Oostendorp, J. Delbeke, and D. F. Stegeman. The conductivity of the human skull: results of *in vivo* and *in vitro* measurements. *IEEE Transactions on Biomedical Engineering*, 47(11):1487–1492, 2000.
- [184] T. Ouypornkochagorn, N. Polydorides, and H. McCann. *In Vivo* estimation of the scalp and skull conductivity. page 1, 2014.
- [185] H. Pauly and H. P. Schwan. The Dielectric Properties of the Bovine Eye Lens. *IEEE Transactions on Biomedical Engineering*, BME-11(3):103–109, 1964.
- [186] H. Pauly and H.P. Schwan. The dielectric properties of the bovine eye lens. *IEEE Transactions on Biomedical Engineering*, BME-11(3):103–109, 1964.
- [187] A. Peyman, S. J. Holden, S. Watts, R. Perrott, and C. Gabriel. Dielectric properties of porcine cerebrospinal tissues at microwave frequencies: *in vivo*, *in vitro* and systematic variation with age. *Physics in Medicine and Biology*, 52:2229–2245, 2007.
- [188] V. Raicu, N. Kitagawa, and A. Irimajiri. A quantitative approach to the dielectric properties of the skin. *Physics in Medicine and Biology*, 45(2):1–4, 2000.
- [189] V. Raicu, T. Saibara, H. Enzan, and A. Irimajiri. Dielectric properties of rat liver *in vivo*: analysis by modeling hepatocytes in the tissue architecture. *Bioelectrochemistry and Bioenergetics*, 47:333–342, 1998.

- [190] V. Raicu, T. Saibara, and A. Irimajiri. Dielectric properties of rat liver *in vivo*: a noninvasive approach using an open-ended coaxial probe at audio / radio frequencies. *Bioelectrochemistry and Bioenergetics*, 47:325–332, 1998.
- [191] J. B. J. Ranck and S. L. BeMent. The specific impedance of the dorsal columns of cat: an anisotropic medium. *Experimental Neurology*, 11(4):451–463, 1965.
- [192] G. N. Reddy and S. Saha. Electrical and dielectric properties of wet bone as a function of frequency. *IEEE Transactions on Biomedical Engineering*, 31(3):296–303, 1984.
- [193] G. N. Reddy and S. Saha. Electrical and dielectric properties of wet bone as a function of frequency. *IEEE transactions on bio-medical engineering*, 31(3):296–303, 1984.
- [194] M. Rullmann, A. Anwander, M. Dannhauer, S. K. Warfield, F. H. Duffy, and C. H. Wolters. EEG source analysis of epileptiform activity using a 1 mm anisotropic hexahedra finite element head model. *NeuroImage*, 44(2):399–410, 2009.
- [195] S. Rush, J. A. Abildskov, and R. McFee. Resistivity of body tissues at low frequencies. *Circulation Research*, 12:40–50, 1963.
- [196] S. Saha and P. A. Williams. Electric and dielectric properties of wet human cancellous bone as a function of frequency. *Annals of Biomedical Engineering*, 17(2):143–158, 1989.
- [197] B. Sanchez, G. Vandersteen, I. Martin, D. Castillo, A. Torrego, P. J. Riu, J. Schoukens, and R. Bragos. *In vivo* electrical bioimpedance characterization of human lung tissue during the bronchoscopy procedure. A feasibility study. *Medical Engineering & Physics*, 35(7):949–957, 2013.
- [198] H. P. Schwan and C. F. Kay. Specific Resistance of Body Tissues. *Circulation Research*, 4(6).
- [199] H. P. Schwan and C. F. Kay. The conductivity of living tissues. *Annals of the New York Academy of Sciences*, 65:1007–1013, 1957.
- [200] M. Sekino, Y. Inoue, and S. Ueno. Magnetic resonance imaging of electrical conductivity in the human brain. *IEEE Transactions on Magnetism*, 41(10):4203–4205, 2005.
- [201] J. Sierpowska, J. Toyras, M. A. Hakulinen, S. Saarakkala, J. S. Jurvelin, and R. Lappalainen. Electrical and dielectric properties of bovine trabecular bone—relationships with mechanical properties and mineral density. *Physics in Medicine and Biology*, 48(6):775–786, 2003.

- [202] J. Sierpowska, J. Toyras, M. A. Hakulinen, S. Saarakkala, J. S. Jurvelin, and R. Lappalainen. Electrical and dielectric properties of bovine trabecular bone—relationships with mechanical properties and mineral density. *Physics in Medicine and Biology*, 48(6):775–786, 2003.
- [203] E. Sigman, A. Kolin, L. N. Katz, and K. Jochim. Effect of motion on the electrical conductivity of the blood. *American Journal of Physiology-Legacy Content*, 118(4):708–719, 1937.
- [204] William T. Smith, William F. Fleet, Timothy A. Johnson, Connie L. Engle, and Wayne E. Cascio. The Ib Phase of Ventricular Arrhythmias in Ischemic In Situ Porcine Heart Is Related to Changes in Cell-to-Cell Electrical Coupling. *Circulation*, 92(10):3051–3060, 1995.
- [205] T. Song, W.J. Chen, B. Yang, H.P. Zhao, J.W. Huang, M.J. Cai, T.F. Dong, and T.S. Li. Diffusion tensor imaging in the cervical spinal cord. *European Spine Journal: Official Publication of the European Spine Society, the European Spinal Deformity Society, and the European Section of the Cervical Spine Research Society*, 20(3):422–428, 2011.
- [206] P. Steendijk, E. T. van der Velde, and J. Baan. Dependence of anisotropic myocardial electrical resistivity on cardiac phase and excitation frequency. *Basic Research in Cardiology*, 89(5):411–426, 1994.
- [207] P. Steendijk, E. T. van der Velde, and J. Baan. Dependence of anisotropic myocardial electrical resistivity on cardiac phase and excitation frequency. *Basic Research in Cardiology*, 89(5):411–426, 1994.
- [208] R. D. Stoy, K. R. Foster, and H. P. Schwan. Dielectric properties of mammalian tissues from 0.1 to 100 MHz . a summary of recent data. *Physics in Medicine and Biology*, 27(4):501–513, 1982. Publisher: IOP Publishing.
- [209] R. D. Stoy, K. R. Foster, and H. P. Schwan. Dielectric properties of mammalian tissues from 0.1 to 100 mhz; a summary of recent data. *Physics in Medicine and Biology*, 27(4):501–513, 1982.
- [210] Chi Tang, Fusheng You, Guang Cheng, Dakuan Gao, Feng Fu, Guosheng Yang, and Xiuzhen Dong. Correlation between structure and resistivity variations of the live human skull. *IEEE Transactions on Biomedical Engineering*, 55(9):2286–2292, 2008.
- [211] J.-Z. Tsai, J. A. Will, S. Hubbard-Van Stelle, Hong C., S. Tungjitkusolmun, Y. B. Choy, D. Haemmerich, V. R. Vorperian, and J. G. Webster. *In-vivo* measurement of swine myocardial resistivity. *IEEE Transactions on Biomedical Engineering*, 49(5):472–483, 2002.
- [212] A.M. Uluğ and P. C . M. van Zijl. Orientation-independent diffusion imaging without tensor diagonalization: anisotropy definitions based

- on physical attributes of the diffusion ellipsoid. *Journal of Magnetic Resonance Imaging: An Official Journal of the International Society for Magnetic Resonance in Medicine*, 9(6):804–813, 1999.
- [213] A. Van Harreveld, T. Murphy, and K.W. Nobel. Specific impedance of rabbit’s cortical tissue. *American Journal of Physiology*, 205:203–207, 1963.
 - [214] T. Voigt, O. Doessel, and U. Katscher. Imaging conductivity and local sar of the human brain. 2008.
 - [215] K. Wake, K. Sasaki, and S. Watanabe. Conductivities of epidermis, dermis, and subcutaneous tissue at intermediate frequencies. *Physics in Medicine and Biology*, 61(12):4376–4389, 2016.
 - [216] T. Yamamoto and Y. Ymamaoto. Electrical properties of the epidermal stratum corneum. *Medical and Biological Engineering and Computing*, 14(2):151–158, 1976.
 - [217] M. Yedlin, H. Kwan, J.T. Murphy, H. Nguyen-Huu, and Y.C.Wong. Electrical conductivity in cat cerebellar cortex. *Experimental Neurology*, 43(3):555–569, 1974.
 - [218] X. Zhang, P. Van de Moortele, S. Schmitter, and B. He. Complex b1 mapping and electrical properties imaging of the human brain using a 16-channel transceiver coil at 7t. *Magnetic resonance in medicine*, 69(5):1285–1296, 2013.

D. Flow Parameters

- [219] <http://ebooks.asmedigitalcollection.asme.org/book.aspx?bookid=287>.
- [220] I.G. Bloomfield, I.H. Johnston, and L.E. Bilston. Effects of proteins, blood cells and glucose on the viscosity of cerebrospinal fluid. *Pediatric Neurosurgery*, 28(5):246–251, 1998.
- [221] E. Bouta, R. Wood, E. Brown, H. Rahimi, C. Ritchlin, and E. Schwarz. *In vivo* quantification of lymph viscosity and pressure in lymphatic vessels and draining lymph nodes of arthritic joints in mice. *Journal of Physiology*, 592(6):1213–1223, 2014.
- [222] B. Inman, W. Etienne, R. Rubin, R. Owusu, T. Oliveira, D. Rodriques, P. Maccarini, P. Stauffer, A. Mashal, and M. Dewhirst. The impact of temperature and urinary constituents on urine viscosity and its relevance to bladder hyperthermia treatment. *International Journal of Hyperthermia*, 29(3):206–210, 2013.
- [223] K. Kadoya, N. Matsunaga, and A. Nagashima. Viscosity and thermal conductivity of dry air in the gaseous phase. *Journal of Physical and Chemical Reference Data*, 14(4):947–196, 1985.
- [224] L. Korson, W. Drost-Hansen, and F. Millero. Viscosity of water at various temperatures. *Journal of Physical Chemistry*, 73(1):34–39, 1969.
- [225] G. Lowe. Blood rheology *in vitro* and *in vivo*. *Bailliere’s Clinical Haematology*, 1(3):597–636, 1987.
- [226] R. Montgomery. Viscosity and thermal conductivity of air and diffusivity of water vapor in air. *Journal of Meteorology*, 4:193–196, 1947.
- [227] P. Rand, E. Lacombe, H. Hunt, and W. Austin. Viscosity of normal human blood under normothermic and hypothermic conditions. *Journal of Applied Physiology*, 19(1):117–122, 1964.
- [228] W. Seibt. *Physik fuer Mediziner*. Thieme, 2009.
- [229] P. Sharif-Kashani, J. Hubschman, D. Sassoon, and H. Kavehpour. Rheology of the vitreous gel : effects of macromolecule organization on the viscoelastic properties. *Journal of Biomechanics*, 44(3):419–423, 2011.
- [230] A. Zupancic Valant, L. Ziberna, Y. Papaharilaou, A. Anayiotos, and G.C. Georgiou. The influence of temperature on rheological properties of blood mixtures with different volume expanders: implications in numerical arterial hemodynamics simulations. *Rheologica Acta*, 50(4):389–402, 2011.

E. Acoustic Parameters

- [231] J.E. Assentoft, H. Gregersen, and W.D. OBrien. Propagation speed of sound assessment in the layers of the guinea-pig esophagus *in vitro* by means of acoustic microscopy. *Ultrasonics*, 39(4):263–268, 2001.
- [232] J. Caloone, C. Huissoud, J. Vincenot, A. Kocot, C. Dehay, J.Y. Chapelon, R.C. Rudigoz, and D. Melodelima. High-intensity focused ultrasound applied to the placenta using a toroidal transducer: a preliminary *ex-vivo* study. *Ultrasound in Obstetrics and Gynecology*, 45(3):313–319, 2015.
- [233] R.C. Chivers and R.J. Parry. Ultrasonic velocity and attenuation in mammalian tissues. *The Journal of the Acoustical Society of America*, 63(3):940–953, 1978.
- [234] D.E.I Collins. *Tissues Substitutes, Phantoms and Computation Modelling in Medical Ultrasound (Report 61)*. International Commission on Radiation Units and Measurements, 2009.
- [235] F. A. Duck. *Physical properties of tissue: a comprehensive reference book.*, volume 18. Academic Press, 1990.
- [236] F. Dunn. Attenuation and speed of ultrasound in lung: Dependence upon frequency and inflation. *The Journal of the Acoustical Society of America*, 80(4):1248–1250, 1986.
- [237] M.A. El-Brawany, D.K. Nassiri, G. Terhaar, A. Shaw, I. River, and K Lozhen. Measurement of thermal and ultrasonic properties of some biological tissues. *Journal of Medical Engineering and Technology*, 33(3):249–256, 2009.
- [238] A.A. El-Sariti, J.A. Evans, and J.G. Truscott. The temperature dependence of the speed of sound in bovine bone marrow at 750 kHz. *Ultrasound in Medicine and Biology*, 32(6):985–989, 2006.
- [239] Y. Fujii, N. Taniguchi, K. Itoh, K. Omoto, and Y. Wang. Attenuation coefficient measurement in the thyroid. *Ultrasound in Medicine and Biology*, 29(5, Supplement):S122, 2003.
- [240] S.A. Goss, R.L. Johnston, and F. Dunn. Comprehensive compilation of empirical ultrasonic properties of mammalian tissues. *The Journal of the Acoustical Society of America*, 64(2):423–457, 1978.
- [241] S.A. Goss, R.L. Johnston, and F. Dunn. Compilation of empirical ultrasonic properties of mammalian tissues. II. *The Journal of the Acoustical Society of America*, 68(1):93–108, 1980.

- [242] S. Harput, D.M.J. Cowell, J.A. Evans, N. Bubb, and S. Freear. Tooth characterization using ultrasound with fractional Fourier transform. *Proceedings of the 2009 IEEE International Ultrasonics Symposium*, pages 1906–1909, 2009.
- [243] U. Hildebrandt, T. Klein, G. Feifel, HP. Schwarz, B. Koch, and R.M. Schmitt. Endosonography of pararectal lymph nodes: *in vitro* and *in vivo* evaluation. *Diseases of the Colon and Rectum*, 33(10):863–868, 1990.
- [244] A. Hosokawa and T. Otani. Ultrasonic wave propagation in bovine cancellous bone. *The Journal of the Acoustical Society of America*, 101(1):558–562, 1997.
- [245] C.S. Joergensen, J.E. Assentoft, D. Knauss, H. Gregersen, and G.A.D. Briggs. Small intestine wall distribution of elastic stiffness measured with 500 MHz scanning acoustic microscopy. *Annals of Biomedical Engineering*, 29(12):1059–1063, 2001.
- [246] A. Kyriakou. Multi-physics computational modeling of focused ultrasound therapies. *PhD thesis*, ETH Zurich, 2015.
- [247] K.J. Parker, S.R. Huang, R.M. Lerner, D. Rubens, and D. Roach. Elastic and ultrasonic properties of the prostate. *Proceedings of the 1993 IEEE Ultrasonics Symposium*, pages 1035–1038 vol.2, 1993.
- [248] Y. Saijo, M. Tanaka, H. Okawai, and F. Dunn. The ultrasonic properties of gastric cancer tissues obtained with a scanning acoustic microscope system. *Ultrasound in Medicine and Biology*, 17(7):709–714, 1991.
- [249] C.M. Sehgal, R.C. Bahn, and J.F. Greenleaf. Measurement of the acoustic nonlinearity parameter B/A in human tissues by a thermodynamic method. *The Journal of the Acoustical Society of America*, 76(4):1023–1029, 1984.
- [250] A. Shelke, M. Blume, M. Mularczyk, C. Landes, R. Sader, and J. Bereiter-Hahn. Visualization of localized elastic properties in human tooth and jawbone as revealed by scanning acoustic microscopy. *Ultrasound in Medicine and Biology*, 39(5):853–859, 2013.
- [251] T.A. Siddiqi, W.D. O’Brien, R.A. Meyer, J.M. Sullivan, and M. Miodovnik. In situ exposimetry: The ovarian ultrasound examination. *Ultrasound in Medicine and Biology*, 17(3):257–263, 1991.
- [252] J. Toyra, M. S. Laasanen, S. Saarakkala, M.J. Lammi, J. Rieppo, J. Kurkijarvi, R. Lappalainen, and J.S. Jurvelin. Speed of sound in normal and degenerated bovine articular cartilage. *Ultrasound in Medicine and Biology*, 29(3):447–454, 2003.

- [253] J.P.W. van den Bergh, G.H. van Lenthe, A.R.M.M. Hermus, F.H.M. Corstens, A.G.H. Smals, and R. Huiskes. Speed of sound reflects Young's modulus as assessed by microstructural finite element analysis. *Bone*, 26(5), 2000.
- [254] P.K. Verma, V.F. Humphrey, and F. A. Duck. Broadband measurements of the frequency dependence of attenuation coefficient and velocity in amniotic fluid, urine and human serum albumin solutions. *Ultrasound in Medicine and Biology*, 31(10):1375–1381, 2005.
- [255] S.G. Ye, K. A. Harasiewicz, C.J. Pavlin, and F.S. Foster. Ultrasound characterization of normal ocular tissue in the frequency range from 50 MHz to 100 MHz. *IEEE Transactions of ultrasonics, ferroelectrics, and frequency control*, 42(1):8–14, 1995.
- [256] S. Yongchen, D. Yanwu, T. Jie, and T. Zhensheng. Ultrasonic propagation parameters in human tissues. *Proceedings of the 1986 IEEE Ultrasonics Symposium*, pages 905–908, 1986.
- [257] O. Zenteno, W. Ridgway, S. Sarwate, M. Oelze, and R. Lavarello. Ultrasonic attenuation imaging in a rodent thyroid cancer model. *Proceedings of the 2013 IEEE International Ultrasonics Symposium*, pages 88–91, 2013.
- [258] D. Zhang and XF. Gong. Experimental investigation of the acoustic nonlinearity parameter tomography for excised pathological biological tissues. *Ultrasound in Medicine and Biology*, 25(4):593–599, 1999.

F. T1, T2 Relaxation Times

G. Elemental Composition

- [259] <https://github.com/OpenGATE>.
- [260] Ronald J McConn, Christopher J Gesh, Richard T Pagh, Robert A Rucker, and Robert Williams III. Compendium of material composition data for radiation transport modeling. Technical report, Pacific Northwest National Lab.(PNNL), Richland, WA (United States), 2011.
- [261] H. Q. Woodard and D. R. White. The composition of body tissues. *British Journal of Radiology*, 59(708):1209–1218, 1986.