

7 Literaturverzeichnis

1. **Aiba, T. and Seki, Y.:** *Intraoperative identification of the central sulcus: a practical method* - Acta Neurochir. Suppl (Wien.). 1988; 22-26
2. **Alberti, O., Dorward, N. L., Kitchen, N. D., and Thomas, D. G.:** *Neuronavigation--impact on operating time* - Stereotact. Funct. Neurosurg. 1997;1-4 Pt 1: 44-48
3. **Allison, T.:** *Localization of sensorimotor cortex in neurosurgery by recording of somatosensory evoked potentials* - Yale J. Biol. Med. 1987;2: 143-150
4. **Altuchow NW:** *Encephalometric investigation of brain in connection with sex, age and cranium size.* - Publisher unknown, Moscow 1891;
5. **Barnett GH, Kormos DW, Steiner CP, and Weisenberger J:** *Use of a frameless, armless stereotactic wand for brain tumor localization with two-dimensional and three-dimensional neuroimaging.* - Neurosurgery 1993;4: 674-8
6. **Barnett, G. H., Miller, D. W., and Weisenberger, J.:** *Frameless stereotaxy with scalp-applied fiducial markers for brain biopsy procedures: experience in 218 cases* - J. Neurosurg. 1999;4: 569-576
7. **Benabid, A. L., Cinquin, P., Lavalley, S. et al.** *Computer-driven robot for stereotactic surgery connected to CT scan and magnetic resonance imaging. Technological design and preliminary results* - Appl. Neurophysiol. 1987;1-6: 153-154
8. **Brinker, T., Arango, G., Kaminsky, J. et al.** *An experimental approach to image guided skull base surgery employing a microscope-based neuronavigation system* - Acta Neurochir. (Wien.). 1998;9: 883-889
9. **Brown RA:** *A computerized tomography-computer graphics approach to stereotaxic localization* - J. Neurosurg. 1979;6: 715-720
10. **Cedzich, C., Taniguchi, M., Schafer, S., and Schramm, J.:** *Somatosensory evoked potential phase reversal and direct motor cortex stimulation during surgery in and around the central region* - Neurosurgery. 1996;5: 962-970
11. **Cho, D. Y., Lee, W. Y., Lee, H. C., Chen, C. C., and Tso, M.:** *Application of neuronavigator coupled with an operative microscope and electrocorticography in epilepsy surgery* - Surg. Neurol. 2005;5: 411-417
12. **Damadian R:** *Tumor detection by nuclear magnetic resonance.* - Science 1971;976: 1151-3
13. **Dandy W:** *Ventriculography following the injection of air into the cerebral ventricles.* - Annals of Surgery 1918; 397-403

14. **Darabi, K., Grunert, P., and Perneczky, A.:** *Accuracy of intraoperative navigation using skin markers.* - Proc. of the 13th Int. Conf on 1997;Elsevier, 920-924,
15. **Derosier C, Delegeue G, Munier T, Pharaboz C, and Cosnard G:** *MRI, geometric distortion of the image and stereotaxy* - J. Radiol. 1991;6-7: 349-353
16. **Dorward, N. L., Paleologos, T. S., Alberti, O., and Thomas, D. G.:** *The advantages of frameless stereotactic biopsy over frame-based biopsy* - Br. J. Neurosurg. 2002;2: 110-118
17. **Du, G., Zhou, L., and Mao, Y.:** *Neuronavigator-guided glioma surgery* - Chin Med. J. (Engl.). 2003;10: 1484-1487
18. **Ecke, U., Khan, M., Maurer, J., Boor, S., and Mann, W. J.:** *[Intraoperative navigation in surgery of paranasal sinus and anterior skull base]* - HNO. 2002;10: 928-934
19. **Ecke, U., Luebben, B., Maurer, J., Boor, S., and Mann, W. J.:** *Comparison of Different Computer-Aided Surgery Systems in Skull Base Surgery* - Skull. Base. 2003;1: 43-50
20. **Elias, W. J., Chadduck, J. B., Alden, T. D., and Laws, E. R., Jr.:** *Frameless stereotaxy for transsphenoidal surgery* - Neurosurgery. 1999;2: 271-275
21. **Fitzpatrick, J. M. and West, J. B.:** *The distribution of target registration error in rigid-body point-based registration* - IEEE Trans. Med Imaging 2001;9: 917-927
22. **Fitzpatrick, J. M., West, J. B., and Maurer, C. R., Jr.:** *Predicting error in rigid-body point-based registration* - IEEE Trans. Med Imaging 1998;5: 694-702
23. **Germano, I. M., Villalobos, H., Silvers, A., and Post, K. D.:** *Clinical use of the optical digitizer for intracranial neuronavigation* - Neurosurgery. 1999;2: 261-269
24. **Gildenberg PL and Kaufman HH.:** *Direct calculation of stereotactic coordinates from CT scans* - Appl. Neurophysiol. 1982;4-5: 347-351
25. **Golfinos JG, Fitzpatrick BC, Smith LR, and Spetzler RF:** *Clinical use of a frameless stereotactic arm: results of 325 cases.* - Journal of Neurosurgery 1995;2: 197-205
26. **Gomez, H., Barnett, G. H., Estes, M. L., Palmer, J., and Magdinec, M.:** *Stereotactic and computer-assisted neurosurgery at the Cleveland Clinic: review of 501 consecutive cases* - Cleve. Clin J. Med. 1993;5: 399-410
27. **Gouda KI, Freidberg SR, Larsen CR, Baker RA, and Silverman ML:** *Modification of the Gouda frame to allow stereotactic biopsy of the brain using the GE 8800 computed tomographic scanner* - Neurosurgery 1983;2: 176-181

28. **Gronningsaeter A, Kleven A, Ommedal S et al.** *SonoWand, an ultrasound-based neuronavigation system.* - Neurosurgery 2000;6: 1373-9
29. **Grundy, B. L.:** *Intraoperative monitoring of sensory-evoked potentials* - Anesthesiology. 1983;1: 72-87
30. **Gumprecht HK, Widenka DC, and Lumenta CB:** *BrainLab VectorVision Neuronavigation System: technology and clinical experiences in 131 cases.* - Neurosurgery 1999;1: 97-104
31. **Haberland, N., Ebmeier, K., Hliscs, R. et al.** *Neuronavigation in surgery of intracranial and spinal tumors* - J. Cancer Res. Clin Oncol. 2000;9: 529-541
32. **Hagemann, A., Rohr, K., and Stiehl, H. S.:** *Coupling of fluid and elastic models for biomechanical simulations of brain deformations using FEM* - Med. Image Anal. 2002;4: 375-388
33. **Hill, D. L., Maurer, C. R., Jr., Maciunas, R. J. et al.** *Measurement of intraoperative brain surface deformation under a craniotomy* - Neurosurgery. 1998;3: 514-526
34. **Homer:** *Odyssey* 1974; Murray AT (Editor), Harvard University Press, London, 270-277
35. **Horsley V and Clarke RH:** *The structure and function of the cerebellum examined by a new method* - Brain 1908; 45-124
36. **Hounsfield GN:** *Computerized transverse axial scanning (tomography): Part I. Description of system.* 1973. - British Journal of Radiology 1995;815: 166-72
37. **Jodicke, A., Springer, T., and Boker, D. K.:** *Real-time integration of ultrasound into neuronavigation: technical accuracy using a light-emitting-diode-based navigation system* - Acta Neurochir. (Wien.). 2004;11: 1211-1220
38. **Kapitanov, D. N., Lopatin, A. S., Potapov, A. A., and Gavrilov, A. G.:** *[Application of the navigation system in endoscopic surgery of paranasal sinuses and base of the skull]* - Vestn. Otorinolaringol. 2005;2: 12-18
39. **Kato A, Yoshimine T, Hayakawa T et al.** *A frameless, armless navigational system for computer-assisted neurosurgery. Technical note.* - Journal of Neurosurgery 1991;5: 845-9
40. **Kelly PJ, Alker GJ, and Goerss S:** *Computer-assisted stereotactic microsurgery for the treatment of intracranial neoplasms.* - Neurosurgery 1982;3: 324-31
41. **King, R. B. and Schell, G. R.:** *Cortical localization and monitoring during cerebral operations* - J. Neurosurg. 1987;2: 210-219
42. **Kombos, T., Suess, O., Funk, T., Kern, B. C., and Brock, M.:** *Intra-operative mapping of the motor cortex during surgery in and around the motor cortex* - Acta Neurochir. (Wien.). 2000;3: 263-268

43. **Kombos, T., Suess, O., Kern, B. C. et al.** *Comparison between monopolar and bipolar electrical stimulation of the motor cortex* - Acta Neurochir. (Wien.). 1999;12: 1295-1301
44. **Krishnan, R., Raabe, A., Hattingen, E. et al.** *Functional magnetic resonance imaging-integrated neuronavigation: correlation between lesion-to-motor cortex distance and outcome* - Neurosurgery. 2004;4: 904-914
45. **Kurimoto, M., Hayashi, N., Kamiyama, H. et al.** *Impact of neuronavigation and image-guided extensive resection for adult patients with supratentorial malignant astrocytomas: a single-institution retrospective study* - Minim. Invasive. Neurosurg. 2004;5: 278-283
46. **Kurtsoy, A., Menku, A., Tucer, B., Oktem, I. S., and Akdemir, H.:** *Neuronavigation in skull base tumors* - Minim. Invasive. Neurosurg. 2005;1: 7-12
47. **Lawton MT and Spetzler RF:** *Clinical Experience with a Frameless Stereotactic Arm in Intracranial Neurosurgery* - Advanced Neurosurgical Navigation 1999;Thieme 321-332
48. **Leksell L:** *A Stereotaxic apparatus for intracerebral surgery* - Acta Chir Scand 1949; 229-233
49. **Leksell L and Jernberg B:** *Stereotaxis and tomography. A technical note* - Acta Neurochir (Wien) 1980;1-2: 1-7
50. **Letteboer, M. M., Willems, P. W., Viergever, M. A., and Niessen, W. J.:** *Brain shift estimation in image-guided neurosurgery using 3-D ultrasound* - IEEE Trans. Biomed. Eng. 2005;2: 268-276
51. **Li, Q. H., Zamorano, L., Pandya, A. et al.** *The application accuracy of the NeuroMate robot--A quantitative comparison with frameless and frame-based surgical localization systems* - Comput. Aided Surg. 2002;2: 90-98
52. **Matula, C., Rossler, K., Reddy, M., Schindler, E., and Koos, W. T.:** *Intraoperative computed tomography guided neuronavigation: concepts, efficiency, and work flow* - Comput. Aided Surg. 1998;4: 174-182
53. **Maurer, C. R., Jr., Fitzpatrick, J. M., Wang, M. Y. et al.** *Registration of head volume images using implantable fiducial markers* - IEEE Trans. Med Imaging 1997;4: 447-462
54. **Moniz E:** *L'encéphalographie artérielle, son importance dans la localisation des tumeurs cérébrales.* - Revue neurologique 1927; 72-90
55. **Muacevic, A., Uhl, E., Steiger, H. J., and Reulen, H. J.:** *Accuracy and clinical applicability of a passive marker based frameless neuronavigation system* - J. Clin Neurosci. 2000;5: 414-418
56. **Nakao, N., Nakai, K., and Itakura, T.:** *Updating of neuronavigation based on images intraoperatively acquired with a mobile computerized tomographic scanner: technical note* - Minim. Invasive. Neurosurg. 2003;2: 117-120

57. **Nimsky, C. and Buchfelder, M.:** *Neuronavigation in epilepsy surgery* - *Arq Neuropsiquiatr.* 2003; 109-114
58. **Nimsky, C., Ganslandt, O., Hastreiter, P., and Fahlbusch, R.:** *Intraoperative compensation for brain shift* - *Surg. Neurol.* 2001;6: 357-364
59. **Nimsky, C., Ganslandt, O., Merhof, D., Sorensen, A. G., and Fahlbusch, R.:** *Intraoperative visualization of the pyramidal tract by diffusion-tensor-imaging-based fiber tracking* - *Neuroimage.* 2006;4: 1219-1229
60. **Oertel, J., Gaab, M. R., Runge, U. et al.** *Neuronavigation and complication rate in epilepsy surgery* - *Neurosurg. Rev.* 2004;3: 214-217
61. **Paleologos, T. S., Wadley, J. P., Kitchen, N. D., and Thomas, D. G.:** *Clinical utility and cost-effectiveness of interactive image-guided craniotomy: clinical comparison between conventional and image-guided meningioma surgery* - *Neurosurgery.* 2000;1: 40-47
62. **Pirotte, B., Goldman, S., Dewitte, O. et al.** *Integrated positron emission tomography and magnetic resonance imaging-guided resection of brain tumors: a report of 103 consecutive procedures* - *J. Neurosurg.* 2006;2: 238-253
63. **Raabe, A., Krishnan, R., Zimmermann, M., and Seifert, V.:** *[Frame-less and frame-based stereotaxy? How to choose the appropriate procedure]* - *Zentralbl. Neurochir.* 2003;1: 1-5
64. **Reinhardt HF and Zweifel HJ:** *Interactive sonar-operated device for stereotactic and open surgery* - *Stereotact. Funct. Neurosurg.* 1990; 393-397
65. **Reithmeier, T., Krammer, M., Gumprecht, H., Gerstner, W., and Lumenta, C. B.:** *Neuronavigation combined with electrophysiological monitoring for surgery of lesions in eloquent brain areas in 42 cases: a retrospective comparison of the neurological outcome and the quality of resection with a control group with similar lesions* - *Minim. Invasive. Neurosurg.* 2003;2: 65-71
66. **RIECHERT, T. and MUNDINGER, F.:** *[Description and use of an aiming device for stereotactic brain surgery (II. model)]* - *Acta Neurochir. Suppl (Wien.).* 1955;Suppl 3: 308-337
67. **Roberts DW, Strohbehm JW, Hatch JF, Murray W, and Kettenberger H:** *A frameless stereotaxic integration of computerized tomographic imaging and the operating microscope.* - *Journal of Neurosurgery* 1986;4: 545-9
68. **Roberts, D. W., Miga, M. I., Hartov, A. et al.** *Intraoperatively updated neuroimaging using brain modeling and sparse data* - *Neurosurgery.* 1999;5: 1199-1206
69. **Roberts, D. W., Nakajima, T., Brodwater, B. et al.** *Further development and clinical application of the stereotactic operating microscope* - *Stereotact. Funct. Neurosurg.* 1992;1-4: 114-117

70. **Roessler K, Ungersboeck K, Dietrich W et al.** *Frameless stereotactic guided neurosurgery: clinical experience with an infrared based pointer device navigation system.* - Acta Neurochir (Wien) 1997;6: 551-9
71. **Röntgen W:** *Über eine neue Art von Strahlen (Vorläufige Mitteilung)* - Aus den Sitzungsberichten der Würzburger physikalisch-medizinischen Gesellschaft 1895; 132-141
72. **Ryan MJ, Erickson RK, Levin DN et al.** *Frameless stereotaxy with real-time tracking of patient head movement and retrospective patient-image registration.* - Journal of Neurosurgery 1996;2: 287-92
73. **Sabbah, P., Foehrenbach, H., Dutertre, G. et al.** *Multimodal anatomic, functional, and metabolic brain imaging for tumor resection* - Clin Imaging. 2002;1: 6-12
74. **Schaltenbrabd G, Bailey P:** *Einführung in die stereotaktischen Operationen mit einem Atlas des menschlichen Gehirns* 1959;Thieme
75. **Schlaier, J. R., Warnat, J., Dorenbeck, U. et al.** *Image fusion of MR images and real-time ultrasonography: evaluation of fusion accuracy combining two commercial instruments, a neuronavigation system and a ultrasound system* - Acta Neurochir. (Wien.). 2004;3: 271-276
76. **Schramm, A., Gellrich, N. C., Gutwald, R. et al.** *Indications for computer-assisted treatment of cranio-maxillofacial tumors* - Comput. Aided Surg. 2000;5: 343-352
77. **Schulder, M., Fontana, P., Lavenhar, M. A., and Carmel, P. W.:** *The relationship of imaging techniques to the accuracy of frameless stereotaxy* - Stereotact. Funct. Neurosurg. 1999;2-4: 136-141
78. **Sicard JA and Forestier J:** *Méthode Generale d`exploration radiologique par l`Huile Iodée* - Bull Mem Soc Med Hop 1922; 463-469
79. **Soza, G., Grosso, R., Labsik, U. et al.** *Fast and adaptive finite element approach for modeling brain shift* - Comput. Aided Surg. 2003;5: 241-246
80. **Spiegel EA, Wycis HT, Marks M, and al., et:** *Stereotaxic apparatus for operations on the human brain* - Science 1947; 349-350
81. **Suess O, Kombos T, Hoell T, Baur S, and Brock M:** *A new cortical electrode for neuronavigation-guided intraoperative neurophysiological monitoring: technical note.* - Acta Neurochir (Wien) 2000;3: 329-32
82. **Suess O, Kombos T, Suess S et al.** *The influence of intra-operative brain shift on continuous cortical stimulation during surgery in the motor cortex--an illustrative case report.* - Acta Neurochir (Wien) 2001;6: 621-3
83. **Talairach J and Szikla G:** *Atlas of Stereotaxic Anatomy of the Telencephalon* 1967;Mason & Cie

84. **Taniguchi, M., Cedzich, C., and Schramm, J.:** *Modification of cortical stimulation for motor evoked potentials under general anesthesia: technical description* - Neurosurgery. 1993;2: 219-226
85. **Tirakotai, W., Miller, D., Heinze, S. et al.** *A novel platform for image-guided ultrasound* - Neurosurgery. 2006;4: 710-718
86. **Tseng, C. S., Chung, C. W., Chen, H. H., Wang, S. S., and Tseng, H. M.:** *Development of a robotic navigation system for neurosurgery* - Stud. Health Technol. Inform. 1999; 358-359
87. **Varma, T. R., Eldridge, P. R., Forster, A. et al.** *Use of the NeuroMate stereotactic robot in a frameless mode for movement disorder surgery* - Stereotact. Funct. Neurosurg. 2003;1-4: 132-135
88. **Vougioukas, V. I., Hubbe, U., Schipper, J., and Spetzger, U.:** *Navigated transoral approach to the cranial base and the craniocervical junction: technical note* - Neurosurgery. 2003;1: 247-250
89. **Wagner, W., Gaab, M. R., Schroeder, H. W., Piek, J., and Niendorf, W. R.:** *[Neuro-navigation in the central area: impact on different surgical steps related to the location and various pathological processes]* - Zentralbl. Neurochir. 2000;4: 188-193
90. **Walker, D. G., Ohaegbulam, C., and Black, P. M.:** *Frameless stereotaxy as an alternative to fluoroscopy for transsphenoidal surgery: use of the InstaTrak-3000 and a novel headset* - J. Clin Neurosci. 2002;3: 294-297
91. **Wang, Z., Wang, D., Chen, Q., Luo, D., and Shen, J.:** *[Modification and application of anterior skull base microsurgery with navigation system]* - Zhonghua Yi. Xue. Za Zhi. 2002;13: 879-882
92. **Watanabe E, Mayanagi Y, Kosugi Y, Manaka S, and Takakura K:** *Open surgery assisted by the neuronavigator, a stereotactic, articulated, sensitive arm.* - Neurosurgery 1991;6: 792-9
93. **Watanabe E, Watanabe T, Manaka S, Mayanagi Y, and Takakura K:** *Three-dimensional digitizer (neuronavigator): new equipment for computed tomography-guided stereotaxic surgery.* - Surgical Neurology 1987;6: 543-7
94. **West JB, Fitzpatrick JM, Toms SA, Maurer CR, Jr., and Maciunas RJ:** *Fiducial point placement and the accuracy of point-based, rigid body registration* - Neurosurgery 2001;4: 810-816
95. **Winkler, D., Lindner, D., Trantakis, C. et al.** *Cavernous malformations--navigational supported surgery* - Minim. Invasive. Neurosurg. 2004;1: 24-28
96. **Wirtz, C. R., Albert, F. K., Schwaderer, M. et al.** *The benefit of neuronavigation for neurosurgery analyzed by its impact on glioblastoma surgery* - Neurol. Res. 2000;4: 354-360

97. **Wirtz, C. R., Bonsanto, M. M., Knauth, M. et al.** *Intraoperative magnetic resonance imaging to update interactive navigation in neurosurgery: method and preliminary experience* - *Comput. Aided Surg.* 1997;3-4: 172-179
98. **Wirtz, C. R., Tronnier, V. M., Bonsanto, M. M. et al.** *Image-guided neurosurgery with intraoperative MRI: update of frameless stereotaxy and radicality control* - *Stereotact. Funct. Neurosurg.* 1997;1-4 Pt 1: 39-43
99. **Wittek, A., Kikinis, R., Warfield, S. K., and Miller, K.:** *Brain shift computation using a fully nonlinear biomechanical model* - *Med. Image Comput. Comput. Assist. Interv. Int. Conf. Med. Image Comput. Comput. Assist. Interv.* 2005;Pt 2: 583-590
100. **Wong, G. K., Poon, W. S., Ng, S. C., and Cheng, A. Y.:** *Fluoroscopic frameless computer-assisted navigation for transsphenoidal surgery: a clinical assessment of accuracy in spatial position and trajectory* - *Minim. Invasive. Neurosurg.* 2004;1: 29-31
101. **Woodworth, G. F., McGirt, M. J., Samdani, A. et al.** *Frameless image-guided stereotactic brain biopsy procedure: diagnostic yield, surgical morbidity, and comparison with the frame-based technique* - *J. Neurosurg.* 2006;2: 233-237
102. **Woolsey, C. N., Erickson, T. C., and Gilson, W. E.:** *Localization in somatic sensory and motor areas of human cerebral cortex as determined by direct recording of evoked potentials and electrical stimulation* - *J. Neurosurg.* 1979;4: 476-506
103. **Wurm, G., Ringler, H., Knogler, F., and Schnizer, M.:** *Evaluation of neuro-navigation in lesional and non-lesional epilepsy surgery* - *Comput. Aided Surg.* 2003;4: 204-214
104. **Zaaroor M, Bejerano Y, Weinfeld Z, and Ben Haim S:** *Novel magnetic technology for intraoperative intracranial frameless navigation: in vivo and in vitro results* - *Neurosurgery* 2001;5: 1100-1107
105. **Zamorano, L. J., Nolte, L., Kadi, A. M., and Jiang, Z.:** *Interactive intraoperative localization using an infrared-based system* - *Stereotact. Funct. Neurosurg.* 1994;1-4: 84-88
106. **Zernov DN:** *L'encephalometrie* - *Rev Gen Clin Ther* 1890;19: 302-