

## 8. Literaturverzeichnis

- [1] W. Paatsch, Galvanotechnik, 51 (1997) 9, 678.
- [2] S. Lucas, G. Terwagne, M. Piette, F. Bodart, Nucl. Instrum. Methods B59/60 (1991) 925.
- [3] Z. Falkenstein, K.C. Walter, M.A. Nastasi, D.J. Rej, N.V. Gavrilov, J. Mater. Res., Vol. 14, No. 11, Nov. 1999, 4351.
- [4] N. Duez, B. Mutel, O. Dessaix, P. Goudmand, J. Grimblot, Surf. Coat. Technol. 125 (2000) 79.
- [5] W. Möller, S. Parascandola, O. Kruse, R. Günzel, E. Richter, Surf. Coat. Technol. 116-119 (1999) 1.
- [6] S. Parascandola, T. Telbizova, O. Kruse, W. Möller, Nucl. Instrum. Methods B 161-163 (2000) 406.
- [7] G.E. Remnev, A.D. Pogrebnjak, Novosti Nauk i Tekniki Vol. 2 (1990) 30.
- [8] A.D. Pogrebnjak, G.E. Remnev, I.B. Kurakin, A.E. Ligachev, Nucl. Instrum. Methods 36 (1989) 286.
- [9] J. Langner, K. Czaus, E. Gorski, M. Gryzinski, A. Horodenski in: K. Henning (Ed.), Phys. Research (Berlin) Vol. 8 (1988) 167.
- [10] R.T. Hodgson, J.E.E. Baglin, R. Pal, J.M. Neri, D.A. Hammer, Appl. Phys. Lett. 37 (1980) 187.
- [11] A.D. Pogrebnjak, S. M. Ruzimov, Physics Letters A, 5 (120) (1987) 259.
- [12] V. Bystritskii, E. Garate, V. Grigoriev, A. Kharlov, E. Lavernia, X. Peng, Y. Yankelevich, Laser and Particle Beams (1998), vol. 16, no. 4, pp. 569.
- [13] C. Weissmantel, G. Reisse, J.J. Erler, F. Henry, K. Bewilogua, U. Ebersbach, C. Schurer, Thin Solid Films, 1979, 63, 315.
- [14] J. Piekoszewski, L. Langner; Nucl. Instrum. Methods B53 (1991) 148 – 160.
- [15] N. Bohr, Phil. Mag. 25 (1913) 10.
- [16] F. Bloch, Ann. Phys. 16, 285 (1933).
- [17] H.A. Bethe, Ann. Phys. 5, 325 (1930).
- [18] J. Lindhard, M. Scharff, H.E. Schiott, Mat.-Fys. Medd. Danske Vid. Selsk. 33, No. 14 (1963).
- [19] J. Lindhard, M. Scharff, Phys. Rev. 114, 118 (1961).
- [20] J.F. Ziegler, J.P. Biersack, U. Littmark, *The Stopping and Ranges of Ions in Matter*, Vol. 4, Pergamon, New York 1985.
- [21] Y. Miyagawa, S. Nakao, M. Ikeyama, K. Saitoh, S. Miyagawa, Nucl. Instrum. Methods B 127/128 (1997) 765 – 769.
- [22] G.H. Kinchin, R.S. Pease, Rep. Progr. Phys. 18 (1955) 1.
- [23] P. Sigmund, Appl. Phys. Lett. 14 (1969) 114.

- [24] L.A. Christel, I.F. Gibbons, T.W. Sigmon, J. Appl. Phys. 52 (1981) 7143.
- [25] T. Tsurushima, H. Tanoue, J. Phys. Soc. Jap. 31 (1971) 1965.
- [26] M.I. Guseva, Surf. Phys. Chem. Mech. (4) (1982) 27.
- [27] P. Sigmund, Phys. Rev. 184 (1969) (2) 383.
- [28] N. Matsunami, Atomic data and nuclear data tables 31 (1984) 3.
- [29] Y. Yamamura, H. Tawara, Atomic data and nuclear data tables 62 (1996) 149.
- [30] J.P. Biersack, Nucl. Instr. Methods B27 (1987) 21.
- [31] R.M. Hausner, Dissertation, Johann Wolfgang Goethe-Universität, Frankfurt/M, 1997.
- [32] F. Schulz, K. Wittmaack, Radiation Effects 29 (1976) 31.
- [33] H.J. Kersten, Dissertation, Universität Heidelberg (1999).
- [34] G.E. Remnev, V. Shulov, Laser and Particle Beams 11 (4) (1993) 707.
- [35] H. A. Davis, G. E. Remnev, R.W. Stinnett, K. Yatsui, MRS Bulletin, August (1996) 58.
- [36] W. Biller, D. Heyden, D. Müller, G.K. Wolf, Surf. Coat. Technol. 116 – 119 (1999) 537.
- [37] V.A. Janushkevitch, Physics and Chemistry of Material Processing (USSR) 5 (1975) 9.
- [38] X.Y. Le, S. Yan, W.J. Zhao, B.X. Han, Y. Wang, J. Xue, Surf. Coat. Technol. 128 – 129 (2000) 381.
- [39] X.Y. Le, W.J. Zhao, S. Yan, B.X. Han, Proceedings: *5<sup>th</sup> Conference on Modification of Materials with Particle Beams and Plasma Flows*, 24. – 29. September 2000, Tomsk (Rußland), 31.
- [40] A. Fick, Ann. Phys. Bd. 4, Reihe 4 (1855) 59.
- [41] Theodor Heumann, „Diffusion in Metallen“, Springer – Verlag Heidelberg, April 1992.
- [42] L.E. Rehn, R.S. Averback, P.R. Okamoto, Materials Science and Engineering 69 (1985) 1.
- [43] K. Neubeck, Dissertation, Fachbereich Materialwissenschaften der TU – Darmstadt (1996), publiziert durch VDI – Verlag, Fortschrittsberichte Reihe 5, Nr. 437.
- [44] H. Wiedersich, Nucl. Instrum. Methods B 7/8 (1985) 1.
- [45] H. Ryssel, I. Ruge, „*Ion Implantation*“, Wiley, Chichester, 1986.
- [46] W. Huppertz, D. Wieser, Werkstoffe und Korrosion 40 (1989) 57.
- [47] H. Nielsen, W. Hufnagel, G. Ganoulis, Aluminium – Taschenbuch, 13.Auflage, Aluminium-Verlag GmbH, Düsseldorf.
- [48] H.A. Wriedt, „The Al-N (Aluminium-Nitrogen) - System, Bull. Alloy Phase Diagrams 7 (1986) 329.
- [49] O. Brandt, H. Yang, B. Jenichen, Y. Suzuki, L. Däweritz, K.H. Ploog, Phys. Rev. B 52 (1995) R2253.
- [50] J.N. Kuznia, J.W. Yang, Q.C. Chen, S. Krishnankutty, M.A. Kahn, T. Georg, Appl. Phys. Lett. 65 (1994) 2407.

- [51] D. Manova, P. Huber, S. Mändl, B. Rauschenbach, Surf. Coat. Technol. 128 – 129 (2000) 249.
- [52] H.L. Lu, W.F. Sommer, M.J. Borden, J.R. Tesmer, X.D. Wu, Thin Solids Films 289 (1996) 17.
- [53] H.R. Stock, H.Y. Chen, P. Mayr, Aluminium 70 (1994) 7/8, 463.
- [54] R. Hübner, G.K. Wolf, W.H. Schreiner, I.J.R. Baumvol, Nucl. Instrum. Methods B80/81 (1993) 1415.
- [55] M. Hillert, S. Jonsson, Z. Metallk. 83 (1992) 714.
- [56] N. Reiter, U. König, Wissenschaft und Technik 30 (1986) 29.
- [57] H. Demiryont, L.R. Thompson, G.J. Collins, Appl. Optics 25 (1986) 1311.
- [58] R. Shinar, J. Vac. Sci. Technol. A 10 (1992) 137.
- [59] C. Meneau, P. Andreazza, C. Andreazza-Vignolle, P. Goudeau, J.P. Villain, C. Boulmer-Leborgne, Surf. Coat. Technol. 100 – 101 (1998) 12.
- [60] Stefan Klose, Diplomarbeit, Universität Heidelberg, 1996.
- [61] Peter Engel, Dissertation, Universität Heidelberg, 1998.
- [62] D. M. Rück, Rev. Sci. Instrum. 63 (4) (1992), 2747.
- [63] W. Kraus, B. Heinemann, E. Speth, O. Vollmer, Beitrag zum 21<sup>th</sup> Symposium on Fusion Technology (SOFT) Madrid, Sept. 2000.
- [64] I.F. Isakov, V.N. Kolodii, M.S. Opekunov, Vacuum 1 – 2 (1991) 159.
- [65] V.V. Valastchuk, S.V. Chalikov, A.P. Yalovets, Mat. Modelirovanie 4 (1992) 111.
- [66] Christoph Jung, Diplomarbeit, Universität Heidelberg, 1996.
- [67] Joachim Kohl, Diplomarbeit, Heidelberg, 1997.
- [68] L.R. Doolittle, Nucl. Instrum. Methods B9 (1985) 344.
- [69] R. Heitzmann, Diplomarbeit, Institut f. Kernphysik, TU-Darmstadt, 1995.
- [70] H. Cheng, X. Lee, F. Yang, Nucl. Instrum. Methods B56/57 (1991) 749.
- [71] J.A Leavitt, Jr., L.C. McIntyre, M.D. Ashbaugh, J.G. Oder, Z. Lin, B. Dezfouly-Arjomandy, (1990) Nucl. Instr. and Meth. B44, 260
- [72] Feng, Y., Zhou, Z., Zhou, G. and Yang, F. (1994b) Nucl. Instr. and Meth. B94, 11.
- [73] Leavitt, J.A., McIntyre Jr., L.C., Stoss, P., Oder, J.G., Ashbaugh, M.D., Dezfouly-Arjomandy, B., Yang, Z.M. and Lin, Z. (1989) Nucl. Instr. and Meth. B40/41, 776
- [74] N. Bohr, Phil. Mag. 30 (1915) 581.
- [75] H. Frey, G. Kienel (Hrsg.): „Dünnschichttechnologie“, VDI-Verlag, Düsseldorf, 1987.
- [76] R. Emmerich, Dissertation, Universität Heidelberg (1994).
- [77] H.H. Uhlig, „Corrosion and Corrosion Control“, John Wiley & Sons Inc., Sec. Edition 1971, Seite 77.
- [78] C.H. Hamann, W. Vielstich, „Elektrochemie“, 3. Auflage 1998, Wiley-VCH-Verlag.
- [79] V. Dimitrova, D. Manova, R. Djulgerova, Surf. Coat. Technol. 123 (2000) 12.
- [80] F. Vacandio, Y. Massiani, P. Gravier, A. Garnier, Surf. Coat. Technol. 92 (1997) 221.
- [81] F. Stippich, Dissertation, Universität Heidelberg (1998).

- [82] A.D. Pogrebnyak, V.T. Shablya, N.V. Sviridenko, A.N. Valyaev, S.V. Plotnikov, M.K. Kylyshkanov, Surf. Coat. Technol. 111 (1999) 46.
- [83] A.N. Valyaev, M.K. Kylyshkanov, A.D. Pogrebnyak, A.A. Valyaev, S.V. Plotnikov, Vacuum 58 (2000) 53.
- [84] A.N. Valyaev, V.S. Ladysev, A.D. Pogrebnyak, A.A. Valyaev, S.V. Plotnikov, Nucl. Instrum. Methods B 161 – 163 (2000) 1132.
- [85] G.E. Remnev, I.F. Isakov, M.S. Opekounov, V.M. Matvienko, V.A. Ryzhkov, V.K. Struts, I.I. Grushin, A.N. Zakoutayev, A.V. Potyomkin, V.A. Tarbokov, A.N. Pushkaryov, V.L. Kutuzov, M.Yu. Ovsyannikov, Surf. Coat. Technol. 114 (1999) 206.
- [86] W. Biller, Persönliche Mitteilung, 2001.
- [87] D. Heyden, D. Müller, G.K. Wolf, Proceedings: „*5<sup>th</sup> Conference on Modification of Materials with Particle Beams and Plasma Flows*“, 24. – 29. September 2000, Tomsk (Rußland), 70.
- [88] V.A. Shulov, N.A. Nochovnaya, Nucl. Instrum. Methods B 148 (1999) 154 – 158.
- [89] A.P. Matthews, M. Iwaki, Y. Horino, M. Satou, K. Yabe, Nucl. Instrum. Methods B 59/60 (1991) 671.
- [90] H. Scheerer, Persönliche Mitteilung, 2001.
- [91] T. Massalski, American Society for Metals: „*Binary Alloy Phase Diagrams*“, Vol. 1 (1986), pp. 106 und 112.
- [92] L.F. Mondolfo, in „*Aluminium Alloys, Structure and Properties*“, Butterworths, London, 1979.
- [93] H.R. Stock, C. Jarms, F. Seidel, J.E. Döring, Surf. Coat. Technol. 94-95 (1997) 247.
- [94] H.Y. Chen, H.R. Stock, P. Mayr, Surf. Coat. Technol. 64 (1994) 139.
- [95] C. Blawert, B.L. Mordike, Nucl. Instrum. Methods B 127-128 (1997) 1.
- [96] S. Simson, T. Reier, J.W. Schultze, C. Buchal, Surf. Coat. Technol. 83 (1996) 49.
- [97] J.B. Malherbe, S. Hofmann, J.M. Sanz, Appl. Surf. Sci. 27 (1986) 355.
- [98] H.H. Andersen, Appl. Phys. 18 (1979) 131.
- [99] S. Schoser, G. Bräuchle, J. Forget, K. Kohlhof, T. Weber, J. Voigt, B. Rauschenbach, Surf. Coat. Technol. 103-104 (1998) 222.
- [100] P.M. Raole, P.D. Prabhawalkar, D.C. Kothari, P.S. Pawar, S.V. Gogawale, Nucl. Instrum. Methods B23 (1987) 329.
- [101] N. Laidani, L. Vanzetti, M. Anderle, A. Basillais, C. Boulmer-Leborgne, J. Perriere, Surf. Coat. Technol. 122 (1999) 242.
- [102] B. Rauschenbach, K. Breuer, G. Leonhardt, Nucl. Instrum. Methods B47 (1990) 396 – 403.
- [103] F. Cordier, E. Ollivier, Surf. Interface Analysis 23 (1995) 601.
- [104] A. Nylund, I. Olefjord, Surf. Interface Analysis 21 (1994) 283.
- [105] S. Ohira, M. Iwaki, Mat. Science Engineering 90 (1987) 143 – 148.
- [106] S. Lucas, G. Terwagne, F. Bodart, Nucl. Instrum. Methods B 59 (1990) 401.
- [107] S. Lucas, J. Chevallier, Surf. Coat. Technol. 65 (1994) 128.

- [108] C. Lin, Y. Li, J.A. Kilner, R.J. Chater, J. Li, A. Nejim, J.P. Zhang, P.L.F. Hemment, Nucl. Instrum. Methods B 80/81 (1993) 323.
- [109] S. Dreer, K. Krismer, P. Wilhartz, g. Friedbacher, Thin Solid Films, 354 (1999) 43.
- [110] J.H. Booske, L. Zhang, W. Wang, K. Mente, N. Zjaba, C. Baum, J.L. Sholet, J. Mater. Research Vol. 12 No. 5 (1997) 1356.
- [111] D.A. Shirley, Phys. Rev. B5 (1972) 4709.
- [112] J.H. Scofield, J. Electr. Spec. and Relat. Phenom. 8 (1976) 12.
- [113] I. Symietz, Diplomarbeit, Institut f. Kernphysik, Universität Frankfurt, 1995.
- [114] D. Heyden, D. Müller, G.K. Wolf, L. Amaral, M. Behar, akzeptiert durch Nucl. Instrum. Methods B (2000).
- [115] Yu.P. Sharkeev, A.N. Didenko, E.V. Kozlov, Surf. Coat. Technol. 65 (1994) 112.
- [116] S. Parascandola, Dissertation, Forschungszentrum Rossendorf (2000).