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References:

[1] Lemma 1 on page 261 in:K. Oka, ?Sur les fonctions analytique de plusieurs variables VIII?, J. Math. Soc. (Japan)3, (1951). In the proof of this lemma, Oka uses H. Cartan's theorem on three annuli.

[2] After this paper was written, it was brought to my attention thatW. Thimm has, in the following two recent papers in these Annalen, given a proof of this generalization of Oka's lemma by an entirely different method than ours: ?Über Moduln und Ideale von holomorphen Funktionen mehrerer Variablen?, vol.139, pp. 1-13 (1959); and ?Untersuchungen über das Spurproblem von holomorphen Funktionen auf analytischen Mengen?, vol.139, pp. 95-114 (1959).

[3] dimdft = dimensiondefect. This is Krull's original term and is sometimes called the ?rank?. We prefer to use Krull's original term partly because we wish to reserve the term ?rank? for a different concept ({\S} 3) which is related to the usual notion of ?Jacobian rank? (see proof of 9.3).

[4] For basic properties of quotient rings which we shall tacitly use, we refer to Chapter II in:D. G. Northcott, ?Ideal Theory?. Cambridge 1953.

[5] For (4.2) see Theorem 21 on page 99 in:I. S. Cohen, ?On the structure and ideal theory of complete local rings?, Trans. Amer. Math. Soc.59, (1946); and also see Remark (13.14) in our Appendix. For (4.3) see Theorem 11 in:W. Krull, ?Dimensionstheorie in Stellenringe?, Crelle J.179, (1938). For (4.4) and (4.5) see respectively Theorem 7 on page 60 and Theorem 8 on page 76 in:D. G. Northcott, ?Ideal Theory?. Cambridge 1953. (4.1) has been proved for an arbitrary regular local ringR byAuslander, Buchsbaum, andSerre, by using homological algebra; see Theorem 1.11 on page 396 in:M. Auslander andD. A. Buchsbaum, ?Homological dimension in local rings?, Trans. Amer. Math. Soc.85 (1957). In the special case of (formal or convergent) power series rings over a (respectively: abstract or complete nondiscrete valued) perfect infinite field, we shall, in our Appendix ({\S} 13), give a direct elementary proof (13.13). Note that (4.1) will not be used until {\S} 8.

[6] Due toSerre.

[7] See {\S} 1 in:J. P. Serre, "Géométrie algébrique et géométrie analytique{", Ann. Inst. Four., VI, (1956).}

[8] (5.1, 5.2, 5.2a, 5.2b) readily follow from the results in:R. Remmert andK. Stein, ?Über die wesentlichen Singularitäten analytischer Mengen?, Math. Ann.126, 263-306 (1953). (5.2c, 5.2d, 5.4) are inH. Cartan, "Séminaire{", 1951-52, 1953-54. We shall not use (5.2c, 5.2d) until {\S} 9 where in (9.4) they will be deduced as corollaries of (9.3).} · Zbl 0051.06303 · doi:10.1007/BF01343164

[9] The proof can be simplified by at once asserting equality here by invoking (8.2). However, we wanted to make {\S} 12 independent of {\S} 8.

[10] Theorem 1 on page 29 in:M. Nagata, ?On the closedness of singular loci?, Inst. des Hautes Études Scientifiques, Publications Mathematique, No. 2 (1959).

[11] Zariski, O.: ?The concept of a simple point of an abstract algebraic variety?, Trans. Amer. Math. Soc.62, pp. 1-52 (1947). · Zbl 0031.26101 · doi:10.1090/S0002-9947-1947-0021694-1

[12] In this connection reference should be made to Theorem 3 on page 363 in:A. Seidenberg: ?The hyperplane sections of normal varieties?. Trans. Amer. Math. Soc.69, (1950).

[13] {\S} 1 in:I. S. Cohen andA. Seidenberg: ?Prime ideals and integral dependence?. Bull. Amer. Math. Soc.52, pp. 252-261 (1946). · Zbl 0060.07003 · doi:10.1090/S0002-9904-1946-08552-3

[14] HereZ denotes an indeterminate.

[15] Lemma 2 on page 32 in:C. Chevalley: ?Intersections of algebraic and algebroid varieties?. Trans. Amer. Math. Soc.57 (1945).

paper as accurately as possible without claiming the completeness or perfect precision of the matching.