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van Straten, D. (D-DSLD)

A note on the discriminant of a space curve. (English summary)

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Let X be a reduced complex analytic germ with isolated singularity. Denote by S the base of the minimal versal deformation of X and by $D \subset S$ the discriminant. It is well known that D is a reduced hypersurface when X is a hypersurface or a complete intersection germ. Moreover, in both cases the $\mathcal{O}_S$-module $\mathrm{Der}_S(\log D)$ of logarithmic vector fields is free or, in other words, D is a free divisor [K. Saito, J. Fac. Sci. Univ. Tokyo Sect. IA Math. **27** (1980), no. 2, 265–291; MR0586450 (83h:32023)].

The author considers the case where X is a space curve, that is, X is a Cohen-Macaulay germ of codimension two in $(\mathbf{C}^3, 0)$. In this case the base S is still smooth but D is not a reduced germ. However, one can prove that the discriminant with reduced analytic structure D_{red} is a free divisor. The author remarks that the same statement holds for Gorenstein curves in $(\mathbf{C}^4, 0)$.

Reviewed by *Aleksandr G. Aleksandrov*