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Equimultiplicity and blowing up, by M. Herrmann, S. Ikeda and U. Orbanz, with an appendix by B. Moonen. Springer-Verlag, Berlin, Heidelberg, New York, 1988, xvii + 629 pp., $99.50. ISBN 3-540-15289-x

This book is intended as a special course in commutative algebra. It deals with two main subjects: the first is the notion of equimultiplicity and the second is the algebraic study of various graded rings in relation to blowing up. This topic arises directly from the resolution of algebraic and complex-analytic singularities. In 1964 Heisuke Hironaka solved the problem of the resolution of singularities of an algebraic variety over a field of characteristic zero. This problem of resolution of singularities, simply put, is to prove (or disprove):