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Gabriel Johnson and **Sandra Spiroff*** (spiroff@olemiss.edu), Department of Mathematics, P.O. Box 1848, Hume Hall 335, University, MS 38677-1848. *Calculating invariants of intersection algebras in the technological era.*

We discuss properties of intersection algebras, which are defined as $\mathcal{B}_R(I, J) = \bigoplus_{r,s \in \mathbb{N}} I^r \cap J^s$, for a commutative Noetherian ring R with respect to two ideals I, J . When I and J are monomial ideals in a polynomial ring R over a field, explicit formulæ for certain invariants of $\mathcal{B}_R(I, J)$ may be obtained. However, there are limitations to the results attainable by purely mathematical means. We present an automation of some calculations, thus reducing tedious time-consuming computations to a matter of seconds. This is joint work with G. Johnson. (Received January 14, 2019)