1128-16-167   **Ken A Brown** (`ken.brown@glasgow.ac.uk`), School of Mathematics and Statistics, University of Glasgow, Glasgow, G12 8QW, United Kingdom, and **Milen T Yakimov*** (`yakimov@math.lsu.edu`), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803. *Azumaya loci and discriminant ideals of PI algebras.*

We will present a theorem which establishes that under mild assumptions the zero set of the discriminant ideal of a prime polynomial identity (PI) algebra R coincides with the zero set of the modified discriminant ideal of R. Furthermore, the theorem proves that this set is precisely the complement of the Azumaya locus of R. This will be applied to classify the Azumaya loci of the mutiparameter quantized Weyl algebras at roots of unity. As another application, we prove that the zero set of the discriminant ideal of a prime PI algebra R coincides with the singular locus of the center of R, provided that the former has height at least 2, R has finite global dimension and is a Cohen-Macaulay module over its center. (Received February 24, 2017)

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