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**Nicholas O Cox-Steib\*** ([noc3md@mail.missouri.edu](mailto:noc3md@mail.missouri.edu)).  *$\mathfrak{m}$ -adic Perturbations and  $F$ -Invariants.*

Suppose  $(R, \mathfrak{m}_R)$  is a Noetherian local ring that is complete with respect to the  $\mathfrak{m}_R$ -adic topology. Given an ideal,  $I \subset R$ , we investigate quotients of the form

$$\frac{R}{(g_1, \dots, g_c)}$$

where  $g_1, \dots, g_c \in R$  are  $\mathfrak{m}_R$ -adically close to a minimal generating set for  $I$ .

We discuss new techniques for studying these quotients when  $R$  has equal characteristic and  $I \subset R$  satisfies certain technical conditions. Applying these methods to  $F$ -finite local rings yields interesting new results about  $F$ -invariants. (Received September 12, 2020)