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**Andrew Alaniz\***, 377 Lockett Hall, Baton Rouge, LA 70803. *On some local invariants of geometric Langlands parameters.* Preliminary report.

For a simple complex algebraic group  $G$ , M. Kamgarpour and D. Sage have shown that the adjoint irregularity of an irregular singular flat  $G$ -bundle on the formal punctured disc is bounded from below by the rank of  $G$ ; moreover, the rank is realized by the formal Frenkel-Gross connection. This is a geometric analog of a conjecture of Gross and Reeder on the Swan conductor of arithmetic local Langlands parameters. In this talk I consider the irregularity of formal connections with respect to representations other than the adjoint representation. In particular, I discuss the conjecture that the minimum irregularity is always attained at the formal Frenkel-Gross connection, and I will present my results on this conjecture for type  $A$  Lie algebras. (Received September 17, 2019)