The behaviour of the Artin conductor

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Abstract: The Artin conductor is an interesting invariant related to the ramification properties of representations of Galois groups. The first non-trivial lower bounds were obtained by Odlyzko using analytical methods on the Artin L-functions:
$$f_{\chi}> (3.70)^{a_{\chi}}(2.38)^{b_{\chi}},$$
where a_{χ} and b_{χ} are integers depending on the character χ.
In this talk, we will discuss some properties of this invariant and present some results regarding its behaviour.