The Monodromy Conjecture for curves

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To any polynomial $f \in \mathbb{C}[x_1, \ldots, x_n] \setminus \mathbb{C}$ one can associate the topological zeta function $Z_{\mathrm{top}}(f, s) \in \mathbb{Q}(s)$. An intriguing open problem about the poles of this function is the Monodromy Conjecture, which was originally formulated by Igusa for his p-adic zeta function. It states that if $s_\circ$ is a pole of $Z_{\mathrm{top}}(f, s)$, then $e^{2\pi i s_\circ}$ is an eigenvalue of the local monodromy of f at some point of $f^{-1}\{0\}$. In 1988 François Loeser proved this conjecture for $n = 2$. We will present a new (and rather elementary) proof of this result.