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Lengths of periodic geodesics and related questions

Thirty-five years ago M. Gromov asked if it is true that the length of a shortest periodic geodesic on a closed Riemannian manifold does not exceed $c(n) \text{Vol}^{1/n}$, where Vol denotes the volume of the manifold, and $c(n)$ is a constant that depends only on its dimension n . This question and a similar question with the diameter of the manifold instead of $\text{Vol}^{1/n}$ are still open.

I will discuss the solutions to these and related questions in dimension 2, as well as the upper bounds for periodic geodesics, stationary geodesic nets, loops and minimal surfaces in higher dimensions.