L. Bers showed that there is a constant $B(g)$, which is nowadays called the Bers constant, such that any closed hyperbolic surface of genus $g$ can be decomposed into pairs of pants by cutting along a family of $3g - 3$ simple closed geodesics of lengths $\leq B(g)$. There has been some work on estimating $B(g)$, e.g., in [P. Buser and M. Seppälä, Duke Math. J. 67 (1992), no. 1, 39–55; MR1174602 (93i:32026)] it was shown that $B(g) \leq 21g$. In this note it is shown that $B(2) = 2 \text{arccosh}(2)$, and it is deduced that any shortest geodesic on the hyperbolic surface of genus 2 has length at most $2 \text{arccosh}(2)$.

{For the entire collection see MR2093669 (2005d:00013)}

Reviewed by Igor Belegradek

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