Title: On absolutely conformal mappings

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Let Ω be a domain in $\mathbb{R}^n$. It is proved that, if $u \in C^1(\Omega; \mathbb{R}^n)$ and there holds the formula $\|\nabla u(x)\|^n = n^{n/2} |\det \nabla u(x)|$ in Ω, then for $n \geq 3$ u is a restriction of a Möbius transformation, and for $n = 2$, u is an analytic function. This extends, partially, the well-known Liouville theorem ([**?**]), wich states that if $u \in ACL^n(\Omega; \mathbb{R}^n)$, $n \geq 3$, and the condition $\|\nabla u(x)\|^n = n^{n/2} \det \nabla u(x)$ is satisfied a.e. in Ω, then u is a restriction of a Möbius transformation.

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