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biholomorphisms of strongly pseudoconvex domains extend to the boundary

 ${\bf Canonical\ name} \quad {\bf BiholomorphismsOfStronglyPseudoconvexDomainsExtendToTheBoundary}$

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It is a basic question in complex analysis to ask when does a biholomorphic mapping of two domains extend to the boundary. The following is a celebrated theorem of Fefferman for strongly pseudoconvex domains.

Theorem (Fefferman). Let $U, V \subset \mathbb{C}^n$ $(n \geq 2)$ be two strongly pseudoconvex domains with smooth (C^{∞}) boundaries (the boundaries are smooth submanifolds). Let $f: U \to V$ be a biholomorphism. Then f extends to a smooth diffeomorphism of \bar{U} to \bar{V} .

References

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- [2] Steven G. Krantz., AMS Chelsea Publishing, Providence, Rhode Island, 1992.