

**Nemirovskii, S. Yu.; Shafikov, R. G.**

**Uniformization of strictly pseudoconvex domains. I.** (English. Russian original) [Zbl 1106.32010](#)  
*Izv. Math.* 69, No. 6, 1189-1202 (2005); translation from *Izv. Ross. Akad. Nauk, Ser. Mat.* 69, No. 6, 115-130 (2005).

Let  $D, D'$  be strictly pseudoconvex Stein domains with real analytic boundaries.

The aim of the paper and its continuation [part II, *Izv. Math.* 69, No. 6, 1203–1210 (2005); translation from *Izv. Ross. Akad. Nauk, Ser. Mat.* 69, No. 6, 131–138 (2005; [Zbl 1106.32011](#))] is to prove the following theorem. The universal coverings of  $D$  and  $D'$  are biholomorphic iff  $\partial D$  and  $\partial D'$  are locally biholomorphically equivalent. The main result of the present paper gives the “if” part of the above equivalence: Any local equivalence between  $\partial D$  and  $\partial D'$  extends to a biholomorphism from the universal covering of  $D$  to the universal covering of  $D'$ . In the generic case when  $\partial D$  and  $\partial D'$  are non-spherical, any local equivalence between  $\partial D$  and  $\partial D'$  extends to a biholomorphism from the universal covering of  $\bar{D}$  to the universal covering of  $\bar{D}'$ . If  $\partial D$  is spherical, then  $D$  is universally covered by the unit ball.

Reviewer: [Marek Jarnicki \(Kraków\)](#)

**MSC:**

[32D15](#) Continuation of analytic objects in several complex variables  
[32D10](#) Envelopes of holomorphy  
[32E10](#) Stein spaces

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