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## COVERING MANIFOLDS FOR ANALYTIC FAMILIES OF LEAVES OF FOLIATIONS BY ANALYTIC CURVES

Yulij S. Ilyashenko

To Jürgen Moser for his seventieth birthday

## Introduction

This paper deals with the foliations of Stein manifolds by analytic curves. A single fiber of such a foliation is a Riemann surface which may be parabolic or hyperbolic. The universal covering over this fiber is either a complex line, or a disk. Now let us take an analytic family of fibers, that is, the saturation of an analytic cross-section by fibers. The main problem in the context, still unsolved, is to find a uniformization of the fibers analytic with respect to the parameter. Precise definitions look like follows.

DEFINITION 1. A skew cylinder is a tuple  $(M, B, \pi)$ , where M is a complex manifold, B is a complex hypersurface in  $M, \pi : M \to B$  is an analytic retraction with the constant rank equal to dim M - 1 and with simply connected fibers. The manifold M is called a *total space* of the skew cylinder.

DEFINITION 2. A skew cylinder is *standard*, if  $M \subset B \times \widehat{\mathbb{C}}$ , and  $\pi$  is the retraction to  $B \times \{0\}$  along the second factor.

REMARK. Different standard skew cylinders may be conformally nonequivalent. The simplest example is provided by a ball and a bidisk foliated by parallel lines.

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