SUBORDINATION CHAINS AND SOLUTIONS
OF THE LOEWNER DIFFERENTIAL EQUATION IN $\mathbb{C}^n$

GABRIELA KOHR

Abstract. In this paper we continue the work begun in [8] and study the general solution of the Loewner differential equation on the unit ball in $\mathbb{C}^n$. We generalize to several variables a result of Becker concerning the form of arbitrary solutions to the Loewner differential equation. We do not require the solutions to be normalized. In particular, we determine the form of biholomorphic solutions, which need not be unique in higher dimensions. Also, we give some applications.

MSC 2000. 32H02, 30C45.

Key words. Biholomorphic mapping, canonical solution, Loewner differential equation, Loewner chain, subordination, subordination chain.

Acknowledgements

Some of the research for this paper was carried out in August 2003 while the author visited the Department of Mathematics of the University of Toronto. G. Kohr expresses her gratitude to the members of this department for their hospitality during this visit.

REFERENCES


Received March 15, 2004

“Babeș-Bolyai” University
Faculty of Mathematics and Computer Science
Str. M. Kogălniceanu nr. 1
400084 Cluj-Napoca, Romania
Email: gkohr@math.ubbcluj.ro