Two Equivalent Presentations for the Norm of Weighted Spaces of Holomorphic Functions on the Upper Half-plane

Mohammad Ali Ardalani*
Faculty of Sciences, University of Kurdistan, Sanandaj, Iran

Received: 26 Aug 2015 Revised: 17 Sep 2017

Extended Abstract

Paper pages (1-8)

Introduction

In this paper, we intend to show that without any certain growth condition on the weight function, we always able to present a weighted sup-norm on the upper half plane in terms of weighted sup-norm on the unit disc and supremum of holomorphic functions on the certain lines in the upper half plane.

Material and methods

We use a certain transform between the unit dick and the upper half-plane, a translation operator between weighted spaces of holomorphic functions toghther with Phragmen-Lindelof theorem in order to obtain our main results.

Results and discussion

We prove 3 Lemma which enable us to get our main results in Theorem 3.

Conclusion

The following conclusions were drawn from this research.

- We find lower bound and upper bound for weighted sup-norm in terms of supremum of the function on the lines in the upper half-plane.
- We obtain lower and upper bounds for translation operator in terms of weighted Sup- norm

Keywords: Holomorphic function, Standard weight, Weighted spaces, Upper half plane.

*Corresponding author: m.ardalani@uok.ac.ir