

BOUNDARY SCHWARZ INEQUALITIES ARISING FROM ROGOSINSKI'S LEMMA

PETER R. MERCER

Abstract. We consider some Schwarz and Carathéodory inequalities at the boundary, as consequences of a lemma due to Rogosinski.

Mathematics subject classification (2010): 30C80, 30J99.

Keywords and phrases: Schwarz lemma, Rogosinski lemma.

REFERENCES

- [1] R. P. BOAS AND H. P. BOAS, *Invitation to Complex Analysis*, Math. Assoc. of America 2010.
- [2] V. N. DUBININ, *The Schwarz inequality on the boundary for functions regular in the disk*, J. Math. Sci **122** (2004), 3623–3629.
- [3] P. L. DUREN, *Univalent Functions*, Springer-Verlag, New York & Berlin, 1983.
- [4] P. R. MERCER, *Sharpened versions of the Schwarz lemma*, J. Math. Analysis & Appl. **205** (1997), 508–511.
- [5] B. N. ÖRNEK, *Carathéodory's inequality on the boundary*, J. Korean Soc. Math. Educ. Ser. B Pure Appl. Math. **22** (2015), 169–178.
- [6] B. N. ÖRNEK, *The Carathéodory inequality on the boundary for holomorphic functions in the unit disk*, J. Math. Physics, Analysis, Geometry **12** (2016), 287–301.
- [7] B. N. ÖRNEK AND B. GÖK, *Boundary Schwarz lemma for holomorphic functions*, Filomat **31** (2017), 5553–5565.
- [8] R. OSSERMAN, *A sharp Schwarz inequality on the boundary*, Proc. Amer. Math. Soc. **128** (2000), 3513–3517.