Abstract:

It was first observed by Poincare in 1907 that there is no analog of the Riemann Mapping Theorem in several variables, in particular, there is no biholomorphic map from the unit ball to the unit polydisc (the unit polydisc is the product of unit discs). Since that time, many studies of function theory and mapping properties of product domains have been made. After reviewing some of the classical results in this area, we discuss some recent extensions of these results to domains closely allied to product domains. This is joint work with Mei–Chi Shaw, Kaushal Verma and Sushil Gorai.