

Global solutions of analytic equations

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To solve systems of analytic equations by power series method, a key issue is to find convergent solutions among formal solutions. This is taken care by Artin's approximation theorem if we are interested only in local solutions, but it is more difficult if we need to find global solutions. We discuss one class of such problems, the formal principle for embeddings of compact complex submanifolds. When the submanifolds have many deformations, we explain how to reduce the global problem of analytic equations into a local problem of partial differential equations. The latter problem can be handled by E. Cartan's equivalence method.