

A Study of Low-Type Submanifolds in Complex Projective and Hyperbolic Spaces

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ABSTRACT

In this talk I first survey some of the principal classification results concerning submanifolds of non-flat complex space forms that are of type ≤ 3 in the sense of B. Y. Chen via the standard embeddings of these space forms into suitable (pseudo) Euclidean spaces by projection operators. Then some recent results, obtained in collaboration with M. Djoric, on 2-type CR-submanifolds of complex projective and hyperbolic spaces are discussed, including various characterizations of these submanifolds alongside with some non-existence results, such as the non existence of (proper) holomorphic 2-type submanifolds of a complex hyperbolic space.