On regular Stein neighborhoods of a union of two totally real subspaces in $\mathbb{C}^n$

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In this talk we present a construction of regular Stein neighborhoods of a union of totally real subspaces $M = (A + iI)\mathbb{R}^n$ and $N = \mathbb{R}^n$ in $\mathbb{C}^n$, provided that the entries of a real $n \times n$ matrix A are sufficiently small. Our proof is based on a local construction of a suitable function ρ near the origin, such that the sublevel sets of ρ are strongly pseudoconvex and admit strong deformation retraction to $M \cup N$.

References

[1] Starčič T., On regular Stein neighborhoods of a union of two totally real planes in $\mathbb{C}^2$. *Ann. Polon. Math.*, **117**, 1–15, 2016.