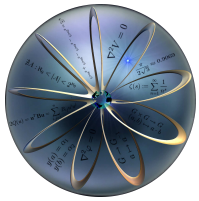

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Lewy hypersurface

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The real hypersurface in $(z_1, \ldots, z_n) \in \mathbb{C}^n$ given by

$$\operatorname{Im} z_n = \sum_{j=1}^{n-1} |z_j|^2$$

is called the *Lewy hypersurface*. Note that this is a real hypersurface of real dimension $2n - 1$. This is an example of a non-trivial real hypersurface in complex space. For example it is not biholomorphically equivalent to the hyperplane defined by $\operatorname{Im} z_n = 0$, but it is locally (not globally) biholomorphically equivalent to a unit sphere.

References

[1] M. Salah Baouendi, Peter Ebenfelt, Linda Preiss Rothschild. , Princeton University Press, Princeton, New Jersey, 1999.