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LEVI CURVATURES IN \mathbb{C}^{n+1} AND THE IDENTIFICATION OF DOMAINS WITH
ASSIGNED CURVATURE IN \mathbb{C}^2

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Abstract: The Levi curvatures for a real hypersurface of \mathbb{C}^{n+1} can be defined in analogy with Euclidean curvatures. The operator related to these curvatures is a second order fully non-linear operator. Its characteristic form, when computed on some "pseudoconvex" function, is non-negative definite with kernel of dimension one. Since the missing ellipticity direction can be recovered by a suitable commutation relation, a strong comparison principle holds. This is an important tool for identification results. Using a technique introduced by Hounie and Lanconelli, we study bounded Reinhardt domains of \mathbb{C}^2 with an assigned curvature reflecting its symmetries.