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**JIRI LEBL**, University of Illinois at Urbana–Champaign

*Levi-flat hypersurfaces with real analytic boundary*

Let  $X$  be a Stein complex manifold of dimension at least 3. Given a compact codimension 2 real analytic submanifold  $M$  of  $X$ , that is the boundary of a compact Levi-flat hypersurface  $H$ , we study the regularity of  $H$ . If  $M$  has finitely many CR singularities, which is a generic condition,  $H$  must in fact be a real analytic submanifold. If  $M$  is real algebraic, it follows that  $H$  is real algebraic and in fact extends past  $M$ , even near CR singularities. To prove these results we provide two variations on a theorem of Malgrange, one for hypersurfaces with boundary and one for subanalytic sets.