On Levi-flat hypersurfaces with transversely affine foliation

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Going back to a famous conjecture in theory of holomorphic foliations stating that there is no real analytic Levi flat hypersurface in $\mathbb{CP}^n$, $n \geq 2$, the study of Levi flat hypersurfaces in complex manifolds has sparked a lot of interest for almost three decades. In a joint work with Masanori Adachi, we prove that there is no real analytic Levi flat hypersurface with transversely affine Levi foliation and whose complement is 1-convex in compact Kähler surfaces. After some preliminaries, we will give a brief sketch of the proof and show how crucial is the pseudoconvexity of the complement with examples.