



Mathematics > Differential Geometry

Calabi-Yau Problem for Legendrian curves in C^3 and applications

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We construct a complete, bounded Legendrian immersion in C^3 . As direct applications of it, we show the first examples of a weakly complete bounded flat front in hyperbolic 3-space, a weakly complete bounded flat front in de Sitter 3-space, and a weakly complete bounded improper affine front in R^3 .

Comments: After the submission, the authors found that the proof of the main theorem contains a serious error and the main theorem turns to be an open problem. ArXiv:[1205.4779](#) is a new paper showing the existence of a weakly complete flat surface (with singularities) in hyperbolic 3-space such that the images of the hyperbolic Gauss maps are bounded, which plays a role of a recovery of the present paper

Subjects: **Differential Geometry (math.DG)**

MSC classes: 53D10, 53A10, 53A1, 53A35

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