

Homogeneous hypersurfaces

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Abstract:

What's so great about the Archimedean screw? Well, for one thing, it's affine homogeneous as a surface in \mathbb{R}^3 . The Cayley surface is another classical example. Using a Lie algebraic approach, the affine homogeneous surfaces in \mathbb{R}^3 were classified in 1996 by Doubrov, Komrakov, and Rabinovich. I shall describe a geometric approach of Vladimir Ezhov and myself, which provides an alternative classification in \mathbb{R}^3 and some further classifications in \mathbb{R}^4 and \mathbb{C}^4 .