Hypersurfaces with Constant Gauss-Kronecker Curvature in $M \times \mathbb{R}$

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Abstract. In this talk, we will present some results from a recent joint work with João Paulo dos Santos and Fernando Manfio. We will consider hypersurfaces of general product spaces $M^n \times \mathbb{R}$ with constant Gauss-Kronecker curvature, which we call *K-hypersurfaces*. In this setting, we will address the following questions: Under what conditions (on M) does $M \times \mathbb{R}$ admit rotational K-hypersurfaces? Is there a general method for the construction of K-hypersurfaces in $M \times \mathbb{R}$? Are K-hypersurfaces of $M \times \mathbb{R}$ rigid?