

# A Classification of Isotropic Affine Hyperspheres

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## ABSTRACT

In this work we study affine hypersurfaces  $M$  which have isotropic difference tensor. Note that any surface always has isotropic difference tensor. In case that the metric is positive definite, such hypersurfaces have been previously studied in [1] and [2]. We first show that the dimension of an isotropic affine hypersurface is either 5, 8, 14 or 26. Next we assume that  $M$  is an affine hypersphere and we obtain for each of the possible dimensions a complete classification.

## References

- [1] O. Birembaux, M. Djoric, Isotropic Affine Spheres, Acta Mathematica Sinica, English Series, Oct., 2012, Vol. 28, No. 10, pp. 1955-1972.
- [2] O. Birembaux, L. Vrancken, Isotropic affine hypersurfaces of dimension 5, J. Math. Anal. Appl. 417 (2014), no. 2, 918-962.