

Geometric algebra for Cayley-Klein spaces: an exciting new (old) tool

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The theory of Cayley-Klein spaces (1859) forms one popular basis for the study of spaces of constant curvature (euclidean, hyperbolic, elliptic). Clifford's geometric algebra (1878) provided a powerful tool for doing geometry in these spaces -- but he only described the non-euclidean case, which was only correctly worked out in this century. In my talk I will introduce these geometric algebras and indicate how they can streamline not just calculating in but also thinking about these important spaces.