Research and Reports on Mathematics

# On Foliations of the Genuine Projective Plane Characterized By Decomposable Pencils of Cubics 

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## Editorial

The bitension field of a vector field treated as a map from a Riemannian manifold ( $\mathrm{M}, \mathrm{g}$ ) to its tangent bundle TM equipped with the Sasaki metric gS is explicitly expressed in this study. As a result, we prove the characterisation theorem for a biharmonic map vector field. On unimodular Lie groups of dimension three, we prove nonexistence findings for left-invariant vector fields that are biharmonic without being harmonic mappings and non-harmonic biharmonic maps.

We consider real cubic pencils to be foliations of the real projective plane. Decomposable pencils are a special case since they are both simple and topologically adaptable. The theory of rational elliptic surfaces is interesting, but it doesn't seem to answer all of our questions. In this section, we conduct a more direct and basic investigation.

While the Euclidean parallel hypothesize $P$ can be supplanted with the combination of the two adages, "Given three equal lines, there is a line that converges each of them three" (ML) and "Given a line a and a point P on a , as well as two crossing lines m and n , both corresponding to $a$, there exists a line $g$ through $P$ which meets m yet not n " (S) to get plane Euclidean math in view of Hilbert's
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plane outright calculation A, it is shown assuming An is somewhat debilitated, as in either the request aphorisms are debilitated or a consistency saying is debilitated, then, at that point, the combination of $M L$ and $S$ is presently not identical to $P$.

We explore the gradient generalised -Ricci soliton on contact metric manifolds of dimension $\geq 5$ in this study. First, we show that if a K-contact metric reflects a gradient generalised $\eta$-Ricci soliton, it is either compact -Einstein and Sasakian, or compact and isometric to a unit sphere $\mathrm{S} 2 \mathrm{n}+1(1)$, as long as $\lambda>-2$. We then show that if a compact contact metric with parallel Ricci tensor reflects a non-trivial gradient generalised $\eta$-Ricci soliton, it is locally isometric to $\mathrm{S} 2 \mathrm{n}+1(1)$.

We can naturally generate certain triangles DEF and $\mathrm{D}^{\prime} \mathrm{E}^{\prime} \mathrm{F}^{\prime}$ that are comparable to $A B C$ in the plane of a triangle $A B C$ by employing the circumcenter O and the orthocenter H . The KissBíró arrangement is built around these triangles. Their circumcircles collide in the orthocenter, H , as well as a remarkable second point, $\mathrm{H}^{\prime}$, from which barycentric coordinates and qualities are deduced. A third triangle, $\mathrm{D}^{\prime \prime} \mathrm{E}^{\prime \prime} \mathrm{F}^{\prime \prime}$, is presented and shown to be inversely similar to and orthologic to ABC , as well as having other features. The similarity transformation $K K$, which maps $D^{\prime \prime} E^{\prime \prime} F^{\prime \prime}$ onto $A B C$, is defined and demonstrated to have a natural and far-reaching function in interactions among triangle centres and loci in the plane of ABC , alongside K-1.

A parallelogram is conformally engraved in four lines in the plane assuming it is recorded in a scaled duplicate of the arrangement of four lines. We look at the math of the three-layered Euclidean space whose focuses are the parallelograms conformally engraved in grouping in these four lines, and we utilize this to depict the progression of recorded square shapes in a minimal model of the square shape engraving issue.

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