

Codimension two Foliations on the three-dimensional manifolds

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Abstract:

We study codimension two foliations (foliations by curves) with at most isolated singularities on the threefolds with rank one Picard group. We prove that such foliations by curves have stable tangent sheaves. A systematic study of for the case three-dimensional projective space was carried out in [2]. In [1] the authors consider foliations by curves on Fano threefolds. We consider arbitrary foliations by curves and a wider class of threefolds, generalizing many of the results obtained in [1, 2]. We also provide a classification of local complete intersection foliations, that is, foliations with locally free conormal sheaves, of degree 0 and 1 on quadric of dimension three.

Joint work with Marcos Jardim and Danilo Santiago

References

- [1] A. Cavalcante, M. Corrêa, S. Marchesi, *On holomorphic distributions on Fano threefolds*, J. Pure Appl. Algebra 224 (2020), 106272.
- [2] M. Corrêa, M. Jardim, S. Marchesi, *Classification of foliations by curves of low degree on the three-dimensional projective space*, Preprint arXiv: 1909.06590.