

A CHARACTERIZATION OF SOME FANO FOURFOLDS THROUGH CONIC FIBRATIONS

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Let X be a Fano manifold of dimension n . A conic bundle on X is a fiber type contraction with fibers of dimension one. In this talk, we will highlight the relation between the relative Picard number of conic bundles on X and the so called **Lefschetz defect**, introduced by Casagrande and related with the Picard number of divisors on X . After giving a general account of the known results, we will address the first unknown case: Fano fourfolds with Lefschetz defect 3. In this case we get general results on the structure of these varieties (bounds on the Picard number of X , rationality and classification of the varieties arising as targets of conic bundles) and some results towards the classification of such fourfolds. This is a joint work with Eleonora Romano (University of Warsaw).