

1035-14-1021 **Enrico Carlini*** (enrico.carlini@polito.it), Dipartimento di Matematica, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Torino, Italy, and **Maria Virginia Catalisano**, DIPTEM, Ple Kennedy, pad D, 16129 Genoa, Italy. *Rational normal curves in projective space.*

Discovering varieties with unexpected behavior is usually difficult and different techniques are involved. For example if one wants to study varieties with secant defect, then one has to determine the postulation of a particular family of schemes. In many cases of interest, schemes supported on the union of linear spaces have to be analyzed. It turns out that rational normal curves can often help in this analysis. This is the case, for example, when one studies the defectiveness of Segre-Veronese varieties. In this talk I will expose some results, old and new, about the existence, or the non-existence, of rational normal curves highly intersecting configurations of linear spaces (e.g. we will answer the question: is there a twisted cubic passing through 4 given points and secant to 2 given lines?). Some issues of this interesting problem were studied classically, but only recently a more thorough approach has been started and only few general results are known. (Received September 18, 2007)