

# CONGRUENCES OF LINES AND APPLICATIONS

PIETRO DE POI(1) AND EMILIA MEZZETTI(2)

ABSTRACT. Recently, S.Agafonov and E.Ferapontov have introduced a construction that allows to associate naturally to every system of partial differential equations of conservation laws a congruence of lines in an appropriate projective space. In particular to hyperbolic systems of Temple type, there correspond congruences of lines that place in pencil of lines. The language of Algebraic Geometry turns out to be very natural in the study of these systems. In this poster, after recalling the definition and the basic facts on congruences of lines, there will be illustrated the Agafonov-Ferapontov's construction and there will be presented some results of classifications for the Temple systems.

(1) MATHEMATISCHES INSTITUT, UNIVERSITÄT BAYREUTH, LEHRSTUHL VIII, UNIVERSITÄTSSTRASSE 30, D-95447 BAYREUTH, GERMANY

(2) DIPARTIMENTO DI SCIENZE MATEMATICHE, UNIVERSITA' DI TRIESTE, VIA VALERIO 12/1, 34127 TRIESTE, ITALY

*E-mail address:* (1) `Pietro.DePoi@uni-baureuth.de`

*E-mail address:* (2) `mezzette@univ.trieste.it`

---

1991 *Mathematics Subject Classification*. Primary 14M15, 35L65 Secondary 53A25, 53B50.

*Key words and phrases*. Congruences, Grassmannian of lines, Conservation Laws, T-systems, fundamental points.

Section number: 03. Algebraic and Analytic Geometry.