

Linear relations and quotient morphisms

Florian-Horia Vasilescu, University of Lille 1, France

(Joint work with Dana Gheorghe)

Multivalued linear operators, also called linear relations when identified with linear submanifolds of a Cartesian products of two vector spaces, can be associated with linear maps from a vector space, with values in an appropriate quotient space. This remark naturally leads to the concept of quotient morphism, which is a linear map defined between pairs of quotient spaces. In this framework, a generalized composition of quotient morphisms may be defined and (algebraic) Fredholm phenomena may be studied.