

ABSTRACT:

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Character varieties of knots and their reductions mod p

I will present joint work with Joan Porti (UAB) in which the $SL(2, \mathbb{C})$ -character varieties of certain knots are studied. A first class of examples concerns a family of Montesinos knots whose character varieties contain high-dimensional irreducible components, different from the Teichmüller one. A second class of examples concerns knots admitting either periodic or free symmetries: in this case, the existence and type of symmetries is reflected in the structure of (part of) the character variety. The interest of these varieties stems from the fact that they provide toy-examples of possible "ramification" phenomena that can occur when considering character varieties over algebraically closed fields of positive characteristic, instead of over the field \mathbb{C} of complex numbers.