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The Schur–Sato theory and some of its applications

The Schur–Sato theory, which will be discussed in the talk, is a generalization of a well-known theory in dimension one, where it describes rings of ordinary differential operators in terms of points of the big cell of Sato grassmanian. This theory was developed for a wide class of so-called quasi-elliptic rings in arbitrary dimension in the work <https://arxiv.org/abs/2205.06790>. Such rings have been defined in order to classify a wide class of commutative rings of operators appeared in the theory of (quantum) integrable systems (such as, for example, rings of commuting differential, difference, differential-difference and etc. operators). The theory was applied to get classification of quasi-elliptic rings in terms of some subspaces (generalized Schur pairs).

I will talk about some interesting applications of this theory in dimension 1, obtained together with students and graduate student Junhu Guo: a convenient description of the moduli space of spectral sheaves on spectral curves, as well as a description of the singularity of a plane spectral curve of a pair of commuting operators at infinity.

SCIENTIFIC SEMINAR

“DIFFERENTIAL GEOMETRY AND APPLICATIONS”

headed by Academician of RAS Anatoly T. Fomenko

The seminar takes place online in ZOOM on Mondays
from 4:45 p.m. to 6:20 p.m. (Moscow time)

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