SIDE 14.2



Contribution ID: 11

Growth and integrability of some birational maps in dimension three

Thursday 22 Jun 2023 at 15:00 (00h30')

Content :

Motivated by the study of the Kahan--Hirota--Kimura discretisation of the Euler top, we characterise the growth and integrability properties of a collection of elements in the Cremona group of a complex projective 3-space using techniques from algebraic geometry. This collection consists of maps obtained by composing the standard Cremona transformation in three dimensions with projectivities that permute its fixed points and the points over which it performs a divisorial contraction. More specifically, we show that three behaviour are possible: (A) integrable with quadratic degree growth and two invariants, (B) periodic with two-periodic degree sequences and more than two invariants, and (C) non-integrable with submaximal degree growth and one invariant.

Primary authors : Dr. GRAFFEO, Michele (Scuola Internazionale Studi Superiori Avanzati) ; Dr. GUBBIOTTI, Giorgio (Universita degli Studi di Milano)

Co-authors :

Presenter : Dr. GUBBIOTTI, Giorgio (Universita degli Studi di Milano)

Session classification : Integrable birational maps

Track classification : -- not yet classified--

Type : --not specified--