Online Number Theory Seminar

10 May 2024. – 17:00-17:50

U. Zannier: Bounded generation in linear groups and exponential parametrizations

In fairly recent joint work with Corvaja, Rapinchuk, Ren, we applied results from Diophantine S-unit theory to problems of "bounded generation" in linear groups: this property is a strong form of finite generation and is relevant for several issues in the setting. Focusing on groups containing only semi-simple elements we could give a simple essentially complete description. More recently, in further joint work also with Demeio, we proved the natural expectation that sets boundedly generated by semi-simple elements (in linear groups over number fields) are "sparse". Actually, this holds for all sets obtained by exponential parametrizations. As a special consequence, this gives back the previous results with a different approach and additional precision and generality.