

LEAVITT PATH ALGEBRAS WITH FINITE GELFAND-KIRILLOV DIMENSION

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ABSTRACT. LPAs (Leavitt Path Algebras) of directed graphs were defined in 2004 by Ara-Moreno-Pardo and Abrams-Aranda Pino as algebraic analogues of graph C^* -algebras (defined in the 80's). However, their roots go back to Bill Leavitt's work in the 60's. The interesting subclass of LPAs with finite GK (Gelfand Kirillov) dimension were identified and investigated by Alahmedi-Alsulami-Jain-Zelmanov in 2012-2013. They include finite dimensional algebras (GKdim=0), locally finite dimensional LPAs (GKdim ≤ 1), the Jacobson (or the algebraic Toeplitz) algebra and algebraic quantum spheres of every dimension.

We will start with the relevant basic definitions, give several examples and mention some of the connections between the algebraic properties of LPA and the combinatorics of the underlying digraph. The rest of the talk will be on the structure and the representations of an LPA, with particular emphasis on LPAs of polynomial growth, as time permits.

References

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