## Row completion of polynomial matrices with prescribed eigenstructure and degree

<sup>1</sup> Dpto. de Matemáticas, Universidad del País Vasco/Euskal Herriko Unibertsitatea, UPV/EHU, Spain

<sup>2</sup> Dpto. de Ciencia de la Computación e IA, Universidad del País Vasco/Euskal Herriko Unibertsitatea, UPV/EHU, Spain

<sup>3</sup> Dpto. de Matemática Aplicada, Universitat Politècnica de València/IMM, Spain

## Abstract

We present a solution to the row-completion problem of a polynomial matrix, prescribing the eigenstructure (or part of it) of the resulting matrix and maintaining the degree. We also generalize to arbitrary fields a characterization of the existence of a polynomial matrix with prescribed degree and eigenstructure.

Acknowledgements: This work was supported by grant PID2021-124827NB-I00 funded by MCIN/AEI/ 10.13039/501100011033 and by "ERDF A way of making Europe" by the "European Union". The first and third authors were also supported by grant GIU21/020 funded by UPV/EHU.