

## The Alon-Jaeger-Tarsi conjecture via group ring identities

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The Alon-Jaeger-Tarsi conjecture states that for any finite field  $F$  of size at least 4 and any nonsingular matrix  $M$  over  $F$  there exists a vector  $x$  such that neither  $x$  nor  $Mx$  has a 0 component. In joint work with János Nagy we proved this conjecture when the size of the field is sufficiently large, namely, when  $61 < |F| \neq 79$ . In this talk we will discuss this result.