

AUTOMORPHISMS OF IDEALS OF POLYNOMIAL RINGS

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Let R be a commutative integral domain with unit, f be a nonconstant monic polynomial in $R[t]$, and $I_f \subset R[t]$ be the ideal generated by f . Such ideal may be considered as an R -algebra. In this talk we present recent results obtained with T. Macedo [arXiv:1604.08531], concerning the group $Aut(I_f)$, of R -algebra automorphisms of I_f . We will show that $Aut(I_f)$ can be obtained by analyzing some symmetries of the roots of f in the algebraic closure of the quotient field of R (counted with multiplicities). In particular, we show that, under certain mild hypothesis, if f has at least two different roots in the algebraic closure of the quotient field of R , then $Aut(I_f)$ is a cyclic group and its order can be completely determined by analyzing the roots of f .

Supported by Fapesp and CNPq

Joint work with Tiago Macedo (Universidade Federal de São Paulo).