

NEW IRREDUCIBLE GENERALISED POWER SERIES

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1. ABSTRACT

A classical tool in the study of real closed fields are the fields $K((G))$ of generalised power series (i.e., formal sums with well-ordered support) with coefficients in a field K of characteristic 0 and exponents in an ordered abelian group G . A fundamental result of Berarducci ensures the existence of irreducible series in the subring $K((G=0))$ of $K((G))$ consisting of the generalised power series with non-positive exponents. We generalize previous results and show that for certain order types almost all series are irreducible or irreducible up to a monomial.