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The Conductor and Discriminant of Bicyclic Quartic Fields

Let K be a field of degree 4 over the rational numbers which has a Galois group isomorphic to the Klein-4 group. Prime factorizations of the conductor and discriminant of K are determined explicitly when K is given in the form $K = \mathbb{Q}(\theta)$, where $\theta^4 + A\theta^2 + B\theta + C = 0$ for $A, B, C \in \mathbb{Z}$. The complete results will be presented exclusively in terms of the primes dividing A, B, C and $A^2 - 4C$. This is joint work with Saban Alaca, Blair K. Spearman and Kenneth S. Williams.