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Título: Groups with a solvable subgroup of prime-power index

Resumo: I will present some results that were obtained in collaboration with Raimundo Bastos (Universidade de Brasília) concerning groups that have solvable subgroups of prime-power index. Under weak conditions, such groups are solvable and, when they are not, the index of their solvable radical is asymptotically small. The proofs of the main results rely on the veracity of the Catalan Conjecture which was proved in 2004. The existence of non-solvable examples is related to the existence of Fermat primes.