

What's a quasi π -group?

Based upon work that led to his thesis under Professor Oscar Zariski, Abhyankar defined a group to be a quasi p -group if the group is generated by the union of its p -Sylow subgroups. In 1957 Abhyankar conjectured that the set of quasi p -groups is exactly the set of groups that should occur as Galois groups of unramified covers of affine curves over an algebraically closed field of characteristic p . The truth of this conjecture was proved by Raynaud and Harbater in independent papers in 1993 - 94. For their work, Harbater and Raynaud received the Cole Prize in Algebra. Ben Harwood in undergraduate research leading to his Honors Thesis at Northern Kentucky University examined the elementary group theory properties of quasi p -groups and determined for each group of order less than 64 for which primes p it is a quasi p -group. He also posed the question "what does it mean for a group to be a quasi p -group for all primes p dividing its order?" We will examine that question and a related question.