

Density and Dirichlet condition

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We shall study some ties between arithmetic properties of the multiplicative structure of commutative rings with identity and the topologies induced by some coset classes. We show that some topologies of this type have implications for, or are related to, arithmetical properties of prime ideals and prime elements of these rings, such as a generalization of Dirichlet's theorem on the infinity of prime elements in residue classes, etc.