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A. C. Cojocaru* (cojocaru@math.uic.edu), University of Illinois at Chicago, Department of Mathematics, Chicago, IL 60606. *Questions about the reductions modulo primes of an elliptic curve.*

Many remarkable questions about prime numbers have natural analogues in the context of elliptic curves. Among them, Artin's primitive root conjecture, the twin prime conjecture, and the Schinzel hypothesis have inspired a broad family of conjectures regarding the behavior of the reductions modulo primes of an elliptic curve over \mathbb{Q} . I will give an overview of such questions and progress made towards their resolution. (Received May 25, 2011)