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A proof of the independence of the Axiom of Choice from the Boolean Prime Ideal Theorem

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Abstract: We present a proof of the Boolean Prime Ideal Theorem in a transitive model of ZF in which the Axiom of Choice does not hold. We omit the argument based on the full Halpern-Läuchli partition theorem and instead we reduce the proof to its elementary case.

Keywords: Boolean Prime Ideal Theorem; the Axiom of Choice
AMS Subject Classification: Primary 03E35, Secondary 03E25, 03E40, 03E45

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