

$I\Delta_0 + \Omega_1$ AND THE EXISTENCE OF
INFINITELY MANY PRIMES

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We sketch an alternative proof of the following result (see [2]):

$$I\Delta_0 + \Omega_1 \vdash \forall x \exists y > x \text{ “}y \text{ is prime”}.$$

The proof employs the coding capabilities of $I\Delta_0 + \Omega_1$ and Chebychev’s method in the spirit of [1].

REFERENCES

- [1] Ch. Cornaros: *On Grzegorzczak induction*, Ann. Pure Appl. Logic 74 (1995), 1–21.
- [2] J. B. Paris, A. J. Wilkie and A. R. Woods: *Provability of the pigeonhole principle and the existence of infinitely many primes*, J. Symbolic Logic 53 (1988), 1235–1244.

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