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SOME REMARKS IN SET THEORY

In this partially expository paper we present some remarks on the theory ZF' obtained by dropping the power set axiom from the theory ZF of Zermelo-Fraenkel.

We first show in ZF' that given a set a the class of subsets of x definable in a and with parameters in a is a set. Therefore, we have in ZF' a notion of sets constructible from the set x.

Our main result is that adding to ZFP' the sentence
(PL) $(\forall x \exists y \forall z(z \subset x \land z$ *constructible from* $x \rightarrow z \in y))$
as an axiom, we can prove in $ZF' + (PL)$ that $L \models ZF$.

As a corollary we obtain the equiconsistency of ZF and $ZF' + (PL)$.

Mathématique Pures
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