

On the Consistency Strength of Axioms for Height and Width Potentialism

Chris Scambler

March 7, 2022

1 Background

What I will do.

2 Axioms

The axioms for the theory and some results.

3 Lemmas

Modal Set Theory: Absoluteness of various kinds.

Set Theory: Π_1 -1 PSP equivalent to only countably many reals in $L[r]$.

Logic: Define a formula to be *pseudo typed* (PT) iff odd numbered variables only ever occur to the right of \in . Then in ZFC, any formula φ has a (weak) PT equivalent $PT(\varphi)$ with $ZFC \vdash PT(\varphi)$ iff $ZFC \vdash \varphi$, and any sentence φ has a (strong) PT equivalent $PT(\varphi)$ with $ZFC \vdash \varphi \leftrightarrow PT(\varphi)$.

Proof. Let $n(\varphi)$ be a number greater than the indices of variables in φ . For each n let E_n be an enumeration of the evens greater than n , so e.g. $E_2(0) = 3$.

We define $PT(\varphi)$ recursively, by hmmm you need to think really carefully about variables here.

4 Results

5 Conclusion