Erratum to “Localizing the axioms”

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In clause (i) of Lemma 2.1 of [1] it is claimed that in BST we can show the existence of ω as the least inductive set. BST contains the axiom of Infinity saying that “there is an inductive set”. However one cannot see how to prove the existence of a least inductive set without either $\in$-induction or at least Π_1-Separation, both of which are not included in BST. The simplest way to correct this flaw is to replace the above Infinity axiom with the stronger version: “There is a smallest inductive set, which we call ω”. Then clause (i) of Lemma 2.1 is modified as follows: “The axioms of Peano arithmetic hold in ω endowed with the usual operations. Thus PA $\subseteq$ BST.” Also the proof of clause (i) is modified as follows: “The minimality of ω as inductive set amounts to the fact that ω satisfies complete induction. The operations $', +, \cdot$ on it are defined as usual and the axioms of PA are shown in BST to be true with respect to ω.”

The above stronger version of Infinity axiom is a Σ_2 sentence (while the old version was Σ_1). This slightly affects the truth of Remark 2.5, where it is claimed that all axioms of BST are Π_2 sentences.

References

[1] A. Tzouvaras, Localizing the axioms, *Archive for Mathematical Logic* **49** (2010), no 5, 571-601.