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Correction to the paper “A notion of measure for classes in AST”

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CORRECTION

TO THE PAPER "A NOTION OF MEASURE FOR CLASSES IN AST"

A. TZOUVARAS

In the hypotheses of Theorems 5 and 6 of [T] the following essential condition on X, Y was omitted:

"The longest of the two cuts $\alpha(X), \alpha(Y)$ is semiregular".

It is not known whether the "overspill argument" mentioned in the proofs of the theorem works without this condition.

To be specific the argument runs as follows:

Proposition. Let $I < J$ be cuts, such that J be semiregular and let $\varphi(x,y)$ be a set-formula. Then,

$$(*) \quad (\forall a \in I)(\forall b \in J)\varphi(a,b) \rightarrow (\exists a_0 > I)(\exists b_0 > J)(\forall a \leq a_0)(\forall b \leq b_0)\varphi(a,b).$$

Proof. Suppose the left hand side of $(*)$ is true and let $a \in I$. Since $(\forall b \in J)\varphi(a,b)$, there is a $c > J$ such that $(\forall b \leq c)\varphi(a,b)$. It follows that if we fix some $e > J$ and consider the function

$$F(a) = \max \{ c \leq e; (\forall b \leq c)\varphi(a,b) \}$$

then $F''I \subseteq e > J$. By semiregularity of J there is some $b_0 > J$ such that

$$(\forall a \in I)(\forall b \leq b_0)\varphi(a,b).$$

By overspill again there is some $a > I$ such that $(\forall a \leq a_0)(\forall b \leq b_0)\varphi(a,b)$.

In fact we can use a weaker condition than semiregularity. It suffices J not to be Π_1 cut.

Reference:

[T] A. TZOUVARAS, A notion of measure for classes in AST, Comment. Math. Univ. Carolinae 28(1987), 449-455.

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