ERRATUM TO “MODEL THEORY AND DIOPHANTINE GEOMETRY”


Our informal description of the modularity of a definable set $X$ of Morley dimension and degree 1 should have been: “There is no $n$-dimensional definable family of definable subsets of $X \times X$ with $n \geq 2$, each of Morley dimension and Morley degree 1 and with pairwise intersections finite” in place of “There should be no infinite definable family of definable subsets of $X \times X$, each of Morley dimension and Morley degree 1 and with pairwise intersections finite.” (See page 415.) Thanks to Gregory Cherlin for pointing out the mistake.

I also mistakenly omitted some important historical and mathematical references concerning the Mordell-Lang conjecture in positive characteristic. Firstly, the Mordell-Lang conjecture for function fields in characteristic $p > 0$, as proved by Hrushovski (the positive characteristic case of Theorem 2.1 in my paper), was first raised in this precise form by Abramovich and Voloch [1] (where some special cases were proved). In an earlier paper [2] Voloch proved the special case where $X$ is a projective variety embedded in its Jacobian $A$ where $A$ is ordinary. It is also in this paper of Voloch’s that the idea of considering only the prime-to-$p$ division points of a finitely generated subgroup of $A$ appears. This restriction to the prime-to-$p$ division points makes the problem tractable, even for Hrushovski. On the other hand, Voloch has pointed out to me that there is no evidence for not including the $p$-division points in $\Gamma$ too. This more general case (where $\Gamma$ is the group of all division points of some finitely generated subgroup of the semi-abelian variety $A$) remains open.

REFERENCES


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