

Correction of data reported in:

A More Accurate Three-Dimensional Grain Growth Algorithm

Emanuel A. Lazar¹, Jeremy K. Mason², Robert D. MacPherson³, David J. Srolovitz⁴

¹*Materials Science and Engineering, University of Pennsylvania, Philadelphia, PA 19104.*

²*Boğaziçi University, Bebek, Istanbul 34342 Türkiye.*

³*School of Mathematics, Institute for Advanced Study, Princeton, New Jersey 08540.*

(Dated: January 13, 2014)

In a previous paper entitled “A More Accurate Three-Dimensional Grain Growth Algorithm” [1], the authors published data from Poisson-Voronoi tessellations and grain growth microstructures, to illustrate a qualitative difference between the two structures. In that paper, we stated the following:

Another example of a scale-invariant property is the distribution of vertex nodes as characterized by the sum of the numbers of faces of the four neighboring grains, as in Fig. 16. One surprising difference between the Voronoi and the steady-state microstructures is that the Voronoi tessellation apparently prefers vertices with even sums, while the steady-state microstructure shows no such bias.

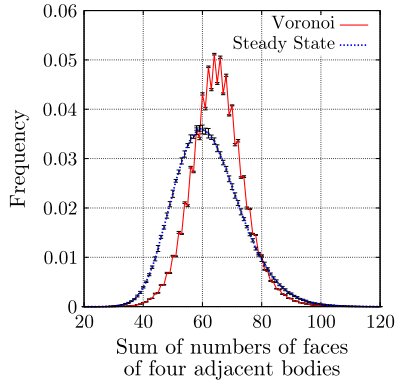
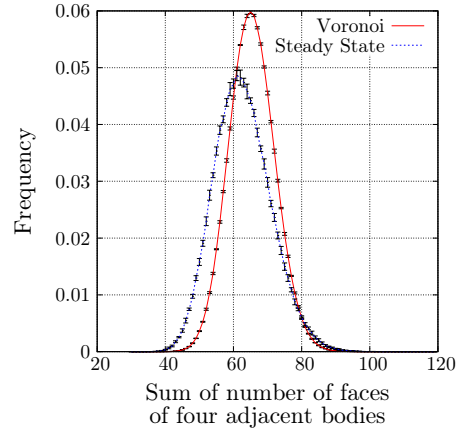


Fig. 16. Distribution of vertices, as characterized by the sum of the numbers of faces of their four adjacent bodies. Data is averaged from eight simulations; error bars indicate the standard deviation from the mean.

It has recently become clear to us that a mistake was made in collecting the relevant data. The figure below reports a corrected version of the original:



Although the modes of the two distributions remain the same, their scalings are corrected. Moreover, the curve from the Voronoi data is substantially smoother than indicated in our original paper, with no preference towards even sums. We regret this error.

[1] E. A. Lazar, J. K. Mason, R. D. MacPherson, and D. J. Srolovitz, *Acta Materialia* **59**, 6837 (2011).