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Erratum

The Computation of Structure from Fixed-Axis Motion: Rigid Structures

D. D. Hoffman and B. M. Bennett

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The exposition in the latter part of the last paragraph on page 76 is confusing, for the assertion there that if a certain set "$B \cap \mathbf{R}^n$" had positive measure in $\mathbf{R}^n$, then it is dense in some open set of $\mathbf{R}^n$, is false in general. A better argument is as follows. We want to show that the set $B \cap \mathbf{R}^n$ in question has measure 0 in $\mathbf{R}^n$ under the assumption that it is a proper subset of $\mathbf{R}^n$. Under this assumption, it is shown (in the first part of the same paragraph) that B is contained in the set of solutions of an equation, say

$$g(x_1, \ldots, x_n) = 0, \tag{1}$$

where g is a polynomial with real coefficients which are not identically 0 on $\mathbf{R}^n$. Choose one of the variables, say x_1, which appears in g, and write g as a polynomial in x_1 whose coefficients are polynomials in $x_2, \ldots, x_n$:

$$g(x_1, \ldots, x_n) = a_k(x_2, \ldots, x_n)x_1^k + a_{k-1}(x_2, \ldots, x_n)x_1^{k-1} + \ldots + a_0(x_2, \ldots, x_n). \tag{2}$$

This shows that the projection of B onto the $x_2, \ldots, x_n$ hyperplane is a k-to-one mapping at most, which admits, locally, continuous sections. Thus the measure of B in $\mathbf{R}^n$ is at most that of finitely many copies of the hyperplane, which is measure 0.