**Errata for "Supermanifolds, Theory and Applications"**

- Page vii, line 9: Change "uses, the" to "uses; the".
- Page 157, line 1: First sentence should be: "In this chapter various geometric structures which can be put on supermanifolds are described.".
- Page 167, line 1: First sentence should be: "In quantum physics, a theory is said to possess supersymmetry if it possesses a symmetry which rotates fermionic degrees of freedom into bosonic and *vice versa*.".
- Page 18: The whole page is reprinted in next page.

over $\mathbb{R}$ with generators

$$1, \beta_{[\,1\,]}, \ldots, \beta_{[\,L\,]}$$

and relations

$$\begin{aligned} 1\beta_{[\,i\,]} &= \beta_{[\,i\,]} = \beta_{[\,i\,]}1 \qquad i = 1, \ldots, L \\ \beta_{[\,i\,]}\beta_{[\,j\,]} &= -\beta_{[\,j\,]}\beta_{[\,i\,]} \qquad i, j = 1, \ldots, L. \end{aligned} \tag{3.1}$$

This is not the most elegant or abstract definition of this algebra, but is the most useful form for the constructions to be made below. A typical element $X$ of $\mathbb{R}_{S[L]}$ may thus be expressed as

$$X = \sum_{\underline{\lambda} \in M_L} X_{\underline{\lambda}} \beta_{[\,\underline{\lambda}\,]} \tag{3.2}$$

where $\underline{\lambda}$ is a multi index $\underline{\lambda} = \lambda_1 \ldots \lambda_k$ with $1 \leq \lambda_1 < \cdots < \lambda_k \leq L$, $M_L$ is the set of all such multi indices (including the empty index $\emptyset$), each $X_{\underline{\lambda}}$ ($\underline{\lambda} \in M_L$) is a real number and $\beta_{[\,\underline{\lambda}\,]} = \beta_{[\,\lambda_1\,]} \ldots \beta_{[\,\lambda_k\,]}$ (with $\beta_{[\,\emptyset\,]} = 1$).

The Grassmann algebra $\mathbb{R}_{S[L]}$ is given the structure of a super commutative algebra by setting $\mathbb{R}_{S[L]} = \mathbb{R}_{S[L\,0]} \oplus \mathbb{R}_{S[L\,1]}$ with $\mathbb{R}_{S[L\,0]}$ consisting of sums of combinations of even numbers of anticommuting generators, and $\mathbb{R}_{S[L\,1]}$ of sums of combinations of odd numbers of anticommuting generators. That is, if $M_{L,0}$ is the set of multi indices in $M_L$ which contain an even number of indices while $M_{L,1}$ is the set of multi indices in $M_L$ which contain an odd number of indices,

$$\begin{aligned} \mathbb{R}_{S[L\,0]} &= \left\{ x \,\middle|\, x \in \mathbb{R}_{S[L]},\, x = \sum_{\underline{\lambda} \in M_{L\,0}} x_{\underline{\lambda}} \beta_{[\,\underline{\lambda}\,]} \right\} \\ \mathbb{R}_{S[L\,1]} &= \left\{ \xi \,\middle|\, \xi \in \mathbb{R}_{S[L]},\, \xi = \sum_{\underline{\lambda} \in M_{L\,1}} \xi_{\underline{\lambda}} \beta_{[\,\underline{\lambda}\,]} \right\}. \end{aligned} \tag{3.3}$$

Here the convention is used that lower case Latin letters denote even variables and lower case Greek letters denote odd variables (while capital letters will denote elements of either parity, or of no definite parity). A complex Grassmann algebra $\mathbb{C}_L$ is similarly defined as the Grassmann algebra over $\mathbb{C}$ with $L$ anticommuting generators, as will be seen in Section 3.3.