Zeitschrift: Commentarii Mathematici Helvetici
Herausgeber: Schweizerische Mathematische Gesellschaft
Band: 67 (1992)

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Comment. Math. Helvetici 67 (1992) 334–335 0010–2571/92/020334–02$1.50 + 0.20/0
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Correction to "Locally flat 2-spheres in simply connected 4-manifolds"

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In the proof of Theorem 1.2 of [3], p. 410, line-12, we asserted that $[P, h, z] \oplus H(\Lambda^r)$ has an orthogonal summand equivalent to $H(\Lambda^{r+1})$. This is indeed the case when $b_2(N) > |\sigma(N)| + 2$. For then $[H_2(N), \lambda, x] \oplus H(\mathbf{Z}^r)$ splits off a copy of $H(\mathbf{Z}^{r+1})$ and the assertion follows by Theorem 4.6. However, as already pointed out in Remark 4.5, $[H_2(N), \lambda, x] \oplus H(\mathbf{Z}^r)$ may not split off $H(\mathbf{Z}^{r+1})$ in the case $b_2(N) = |\sigma(N)| + 2$. Thus to show that the stable equivalence of (4.13) implies $[P, h, z] \cong [P', h', z']$ in this case as well, one argues that (i) $[P, h] \otimes_\Lambda \mathbf{Z}[\zeta_n]$ has an orthogonal summand equivalent to $H(Z[\zeta_n])$ for each $n \mid d$, $n > 1$, and (ii) $[P, h] \otimes_\Lambda \hat{\Lambda}$ has an orthogonal summand of rank ≥ 1 which is perpendicular to $z \otimes 1$. (This works also in the case $b_2(N) > |\sigma(N)| + 2$.) For then the conclusion of Theorem 4.2 holds (see Remark 4.5) and the rest of the argument goes through without change. It remains to show (i) and (ii). As before, (i) follows from the signature hypothesis $b_2(N) > \max_{0 \leq j < d} |\sigma(N) - 2j(d-j)(1/d^2)x \cdot x|$ by Theorem 10 of [4]. Since $[P, h] \otimes_\Lambda \hat{\mathbf{Z}}$ has an orthogonal summand of rank ≥ 1 which is perpendicular to $z \otimes 1$, (ii) follows by the commutative diagram on p. 406.

In the proof of Theorem 4.6, p. 407, line-7, the result of [1] was misapplied. The argument was made for a primitive class $\hat{z}$ whereas [1] requires the class to be unimodular. Therefore the argument should be applied instead to the unimodular class in $\hat{P} \otimes_{\hat{\Lambda}} \hat{Z}$ whose d multiple equals $\hat{z} \otimes 1$. This yields an isometry η of $[P, h] \otimes_\Lambda \hat{\mathbf{Z}}$ which maps $\hat{z} \otimes 1$ to the class corresponding to $\hat{\alpha}(z \otimes 1)$. It follows from the discussion in [2, ch. IV §3] that, for $k > 2$, there are such isometries η which lift to $[P, h] \otimes_\Lambda \hat{\Lambda}$. Since $\hat{z} \in \hat{P}^G$, any lifted isometry will map $\hat{z}$ to $\hat{\alpha}(z \otimes 1)$, as required.

We are grateful to I. Hambleton and M. Kreck for bringing these two points to our attention.

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Received October 22, 1991

Buchanzeigen

JAMES FORAN, **Fundamentals of Real Analysis,** Marcel Dekker, inc., 1991, 496 p.p. $59.75.

Preface – 1.1. Basic Definitions and Background Material – 1.2. Additional Basic Theorems – 2.1. Sets and Cardinal Numbers – 2.2. Discussion of Axiomatic Set Theory – 3.1. Well-Ordered Sets and Ordinal Numbers – 3.2. Applications of the Axiom of Choice – 4.1. Borel Sets and Baire Functions – 4.2. Exact Baire Classes – 5.1. Measure and Measurable Sets – 5.2. Additive Functions of a Set – 6.1. Measurable Functions – 6.2. Density Topology and Approximate Continuity – 7.1. The Lebesque Integral – 7.2. Introduction to L^p spaces – 8.1. Differentiation of the Integral – 8.2. Differentiation of Functions of a Set – 9.1. The Denjoy–Perron Integral – 9.2. The Denjoy Integral – Index.

R. KIRCHER, W. BERGNER, **Three-Dimensional Simulation of Semiconductor Devices,** Birkhäuser Verlag, 1991, 124 p.p., Sfr. 82.-.

1. Introduction – 1.1 Device Modeling – 1.2 Three-Dimensional Effects in VLSI Structures – 1.3 History of Three-Dimensional Device Simulation – 2. Basic Physical Models – 2.1 Carrier Densities – 2.2 Doping Concentration – 2.3 Carrier Mobilities – 2.4 Generation and Recombination – 2.5 Modeling of Device Boundaries – 2.5.1 Contacts – 2.5.2 Interfaces – 2.5.3 Artificial Boundaries – 2.6 Limits of Classical Device Modeling – 3. Discretization – 3.1 Spatial Discretization – 3.2 Discretization of Poisson's Equation – 3.3 Discretization of the Continuity Equations – 3.4 Discretization of Boundary Conditions – 3.4.1 Dirichlet Points – 3.4.2 Neumann Boundaries – 3.5 Non-Planar Boundaries – 3.6 Time Discretization – 3.7 Charge Conservation – 4. Numerical Solution –4.1 Non-linear System – 4.2 Gummel's Relaxation Method – 4.3 Super Iterations – 4.4 Set of Variables – 4.5 Solution of the Linear System – 4.5.1 Symmetrical Matrix 4.5.2 Asymmetrical Matrix – 4.5.3 Vectorization – 4.5.4 Preconditioning – 4.6 Calculation of Physical Magnitudes – 4.6.1 Electric Field – 4.6.2 Current Densities and Terminal Currents – 4.6.3 Capacitance – 5 Examples – 5.1 Depletion-Type Trench Cell – 5.2 IVEC Cell.

ARTHUR G. WERSCHULZ, **The Computational Complexity of Differential Integral Equations,** An information-based approach, Oxford University Press, 1991, 331 p.p. £35.-.

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