Corrections to
"The K-book: an introduction to algebraic K-theory"
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p.101 lines -10,-13,-16: the product '$*$' should be '$\circ$'

p.101 line -8: $\exp(1 - r_n t^n/n)$ should be $\exp(-r_n t^n/n)$

p.102 line 12: insert example:

Example 4.3.3. (Chern ring) If A is a graded ring, let $W_{gr}(A)$ denote the subgroup of $W(A)$ consisting of all terms $1 + \sum a_i t^i$ with $a_i \in A_i$. Then the formula

$$(1 + a_1 t) *_{gr} (1 + b_1 t) = (1 + (a_1 + b_1)t)/(1 + a_1 t)(1 + b_1 t)$$

extends to an associative product on $W_{gr}(A)$. (To see this, formally factor $1 + a_i t^i = \prod(1 + \alpha_i t)$.) Grothendieck observed that $\mathbb{Z} \times W_{gr}(A)$ is a (special) λ-ring, and that the $(1, 1 + at)$ are line elements. See [SGA6], 0_{App},§I.3 and V.6.1.

If A is a graded $\mathbb{Q}$-algebra, the formula $ch(1 + at) = e^a - 1$ defines a ring isomorphism $ch : W_{gr}(A) \to \prod A_n$ (exercise!). Now suppose that $(1 + a_n t^n) = \prod(1 + \alpha_i t)$, so that the elementary symmetric polynomials s_k in the α_i vanish for $k < n$, and $s_n = a_n$. For $k < n$ this implies that $\sum \alpha_i^k = 0$, and $\sum \alpha_i^n = (-1)^{n-1} n a_n$. It follows that the lowest term in $ch(1 + a_n t^n)$ is $(-1)^{n-1} a_n/(n-1)!$.

p.109 line -5: The subscripts on the sums should be $i = 1$, not $i = 0$.

p.114: insert exercise:

4.15 If K is a λ-ring with a positive structure, show that the total Chern class $\widetilde{K} \xrightarrow{c} W_{gr}(A)$ is a homomorphism of λ-rings without unit. (See Example 4.3.3.) *Hint:* Use the Chern roots a_i of p to evaluate $c(\lambda^n p)$ as a product of terms $1 + (a_{i_1} + \cdots a_{i_n})$, $i_1 < \cdots < i_n$.

Using the λ-ring structure on $H \times W_{gr}(A)$ of Example 4.3.3, show that $K \to H \times W_{gr}(A)$, $x \mapsto (\varepsilon, c(x))$, is a homomorphism of λ-rings with unit; see [SGA6, 0_{App}§I.3].

p.180 (II.9.4): 'If $\mathcal{B}$ is cofinal in $\mathcal{C}$' should be 'If $\mathcal{B}$ is saturated, and cofinal in $\mathcal{C}$'

p.189 (Ex. II.9.14): '$\mathcal{B}$ is cofinal in $\mathcal{C}$' should be 'If $\mathcal{B}$ is saturated, and cofinal in $\mathcal{C}$'

p.252 l.11 (II.6.1.2): because when lead$(f) = 1$, then lead$(1 - f)$ is either

pp. 259, 260, 274, 605: 'Artin-Schrier' should be 'Artin-Schreier' several times

p.281 l.-5: $K_n^M F(t)$ and $K_n^M F(t)_w$ should be $K_{n+1}^M F(t)$ and $K_{n+1}^M F(t)_v$

p.372 (IV.8.9): 'If $\mathcal{B}$ is a cofinal' should be 'If $\mathcal{B}$ is a saturated, cofinal'

p.417 (V.2.3.1): 'Let $\mathcal{B}$ be a cofinal' should be 'Let $\mathcal{B}$ be a saturated, cofinal'

p.434 l.20 (V.3.11): insert 'pseudocoherent' before 'complexes of flasque'

p.496 line 5–7: The two '$*$' should be '$\circ$' and II.4.3 should be II.4.3.3.

p.497 line 19: '$*$' should be '$\circ$'

p.506 (Ex. 11.3): ...write $W_{gr}(H)$ for the nonunital ring of Example 4.3.3. Show that... In the display , $*$ should be $*_{gr}$. The hint should read: In the universal case $H = \mathbb{Z}[x, y]$, $W_{gr}(H)$ embeds in $W_{gr}(H \otimes \mathbb{Q})$. Now use the isomorphism ch of Example 4.3.3.

p.540 (VI.5.7): "$H_2(GL_2(F),\mathbb{Z}) = F^\times$, and" should be:

"$H_1(GL_2(F),\mathbb{Z}) = F^\times$, $H_2(GL_2(F),\mathbb{Z}) = \bigwedge^2 F^\times \oplus K_2(F)$, and" (see p.541, line 6)

p.564 line -6: $\mathbb{Z}^{r_2+|S|-1}$ should be $\mathbb{Z}^{r_1+r_2+|S|-1}$

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