R. Schneider, W. Weil, *Stochastic and Integral Geometry.* Springer, Berlin-Heidelberg, 2008.

ERRATA (last updated November 15, 2017)

p. VI, l. 21: Replace 'taylored' by 'tailored'.

p. 1, l -3: Replace 'similarly' by 'invariant'.

p. 39, l. -5: In the definition of $K(x,y)$, replace $\|z\|\cos\alpha$ by $\|z\|\|y\|\cos\alpha$.

p. 79, l. -2: Replace $\mathcal{B}\otimes\Omega$ by $\mathcal{B}\otimes\mathbf{A}$.

p. 102, Theorem 4.1.2: The first sentence after formula (4.4) has to be replaced by the following one:

Sufficient for (4.4) is the $\mathbb{Q}$-integrability of the dth power of the circumradius, and in the case of a process of convex particles, (4.4) is equivalent to the $\mathbb{Q}$-integrability of the intrinsic volumes $V_1,\dots,V_d$.

p. 103, line 12: "The remaining equivalences" has to be replaced by "The remaining assertions on the validity of (4.4)"

p. 139, l. 14: Delete the factor $\frac{1}{2}$.

p. 156, l. 18: Replace (4.34) by (4.31).

p. 172, l. 1: Replace

$$c_j^k = \frac{\Gamma(\frac{k+1}{2})}{\Gamma(\frac{j+1}{2})} \quad \text{by} \quad c_j^k = (2\sqrt{\pi})^{k-j}\,\frac{\Gamma(\frac{k+1}{2})}{\Gamma(\frac{j+1}{2})}.$$

p. 193, l. 16: Insert the factor $\frac{1}{\sigma_{d-1-j}(L\cap S^{d-1})}$ on the left side.

p. 197, formula (5.26): Replace gB by $g.B$

p. 242, formula (6.34): Replace $\gamma(F,u^\perp)$ by $\gamma(F,u^\perp;K,u^+)$.

p. 251, l. -9: Replace $d_s(K,x)\le\epsilon$ by $0<d_s(K,x)\le\epsilon$.

p. 253, l. -3: Replace $K\in\mathcal{K}_s$ by $K\in\mathcal{K}_s$, $K\ne S^{d-1}$.

p. 258, l. 9: Replace 'a continuous extension' by 'an additive extension'.

p. 262, l. -1: In the numerator, replace ω_d by ω_{d-1}.

p. 288, **Theorem 7.3.2**: The right-hand side of the formula needs an additional factor 2^{d+1} (this error was pointed out to us by Daniel Hug). For this, the part of the proof beginning with "It follows that" on page 289, lines 8–9, should be replaced by the following.

We define B as the set of all $((u_0,\tau_0),\dots,(u_d,\tau_d))\in(S^{d-1}\times\mathbb{R})^{d+1}$ for which the hyperplanes $H(u_0,\tau_0),\dots,H(u_d,\tau_d)$ determine a simplex that has $u_0,\dots,u_d$ as its outer normal vectors. For $\boldsymbol{\varepsilon}:=(\varepsilon_0,\dots,\varepsilon_d)\in\{-1,1\}^{d+1}$, let $T_{\boldsymbol{\varepsilon}}:(S^{d-1}\times\mathbb{R})^{d+1}\to(S^{d-1}\times\mathbb{R})^{d+1}$ be defined by $T_{\boldsymbol{\varepsilon}}((u_0,\tau_0),\dots,(u_d,\tau_d)):=((\varepsilon_0u_0,\varepsilon_0\tau_0),\dots,(\varepsilon_du_d,\varepsilon_d\tau_d))$. Then the sets $T_{\boldsymbol{\varepsilon}}(B)$, $\boldsymbol{\varepsilon}\in\{-1,1\}^{d+1}$, are pairwise disjoint and cover $(S^{d-1}\times\mathbb{R})^{d+1}$ up to a set of measure zero. Let $f'((u_0,\tau_0),\dots,(u_d,\tau_d)):=f(H(u_0,\tau_0),\dots,H(u_d,\tau_d))$. Then

$f' \circ T_\varepsilon = f'$. Since the image measure of $(\sigma \otimes \lambda_1)^{d+1}$ under T_ε is the same measure, we have

$$\int_{(S^{d-1}\times\mathbb{R})^{d+1}} f' \, \mathrm{d}(\sigma \otimes \lambda_1)^{d+1} = \sum_{\varepsilon} \int_{T_\varepsilon(B)} f' \, \mathrm{d}(\sigma \otimes \lambda_1)^{d+1} = 2^{d+1} \int_B f' \, \mathrm{d}(\sigma \otimes \lambda_1)^{d+1}.$$

This gives

$$\begin{aligned}
&\omega_d^{d+1} \int_{A(d,d-1)^{d+1}} f \, \mathrm{d}\mu_{d-1}^{d+1} \\
&= \int_{(S^{d-1}\times\mathbb{R})^{d+1}} f' \, \mathrm{d}(\sigma \otimes \lambda_1)^{d+1} = 2^{d+1} \int_B f' \, \mathrm{d}(\sigma \otimes \lambda_1)^{d+1} \\
&= 2^{d+1} \int_{(S^{d-1})^{d+1}} \int_{\mathbb{R}^{d+1}} f(H(u_0,\tau_0), \dots, H(u_d,\tau_d)) \mathbf{1}_B((u_0,\tau_0), \dots, (u_d,\tau_d)) \\
&\quad \times \mathrm{d}(\tau_0, \dots, \tau_d) \, \mathrm{d}\sigma^{d+1}(u_0, \dots, u_d) \\
&= 2^{d+1} d! \int_{(S^{d-1})^{d+1}} \int_{\mathbb{R}^d} \int_0^\infty f(H(u_0, \langle z, u_0\rangle + r), \dots, H(u_d, \langle z, u_d \rangle + r)) \\
&\quad \times \mathrm{d}r \, \lambda(\mathrm{d}z) \, \Delta_d(u_0, \dots, u_d) \mathbf{1}_{\mathsf{P}}(u_0, \dots, u_d) \, \mathrm{d}\sigma^{d+1}(u_0, \dots, u_d),
\end{aligned}$$

where Fubini's theorem has been used and the transformation formula derived above (i.e., p. 289, lines 1–8) has been applied to the integral over $\mathbb{R}^{d+1}$.

p. 358, l. 6: Replace $x \in L_q^\perp$ by $x \in \vartheta L_q^\perp$

p. 364, l. 5: Replace

$$2^{k-1} \frac{\kappa_d \kappa_{d+k-1}}{\kappa_k} \quad \text{by} \quad 2^{k-1} d \frac{\kappa_d \kappa_{d+k-1}}{\kappa_k}.$$

p. 373, l. 5: Replace (8.57) by (8.56).

p. 373, formula (8.63): $\frac{\kappa_d}{\kappa_q}$ must be outside the round brackets.

p. 388, l. -1: Replace $c_j^{m_i}$ by $c_d^{m_i}$ and insert the factor c_j^d before the sum over s.

p. 440, l. 7: Replace line 7 by "of the parts of the arcs visible in direction u and projected to the line orthogonal to u. A similar estimator, involving circular arcs, is studied in the book by Hall [317]."

p. 441, l. 16 and l. 23: Replace $\overline{V}_{2,2,2}^{(0)}$ by $\frac{1}{6}\overline{V}_{2,2,2}^{(0)}$.

p. 441, l. -2: Replace $\overline{h}(X,u)$ by $\overline{h}(X,-u)$.

p. 469, line 6 of Note 7: Insert 'a' before 'stationary'.

p. 469, line 9 of Note 7: Replace 'with the cells of $\mathcal{Y}_i$' by 'with the cells of the ith mosaic of $\mathcal{Y}_1$'.

p. 472, l. 5: Replace $\operatorname{conv} X$ by $\operatorname{conv} \widetilde{X}$.

p. 478: The proof of

$$\bigcup_{e \in \mathcal{F}_0(\mathsf{m})} D(e, A) = \mathbb{R}^d \tag{1}$$

is not correct; the last paragraph of the proof should be replaced by the following text.

We identify $\mathbb{R}^d$ with the subspace of $\mathbb{R}^{d+1}$ spanned by the vectors $e_1, \dots, e_d$ of an orthonormal basis $(e_1, \dots, e_{d+1})$ of $\mathbb{R}^{d+1}$, define $\ell(y) := y + \|y\|^2 e_{d+1}$ for $y \in \mathbb{R}^d$ and $P := \operatorname{conv} \ell(A)$. Let $\mathcal{F}_P$ denote the set of facets of the polyhedral set P with an outer normal vector n satisfying $\langle n, e_{d+1}\rangle < 0$. Then $\bigcup_{F \in \mathcal{F}_P} \pi F = \mathbb{R}^d$, where $\pi : \mathbb{R}^{d+1} \to \mathbb{R}^d$ denotes the orthogonal projection. If this where false, then P and some line parallel to e_{d+1} could be separated by a hyperplane, contradicting the assumption that $\operatorname{conv} A = \mathbb{R}^d$. Thus, (1) follows if we have shown that $\pi F \in \mathsf{d}$ for $F \in \mathcal{F}_P$.

For the proof, let $F \in \mathcal{F}_P$. The hyperplane $H := \operatorname{aff} F$ is the image of $\mathbb{R}^d$ under an affine map $\alpha : \mathbb{R}^d \to \mathbb{R}^{d+1}$, which can be written in the form $\alpha(y) = y + (\langle 2z, y\rangle + b)e_{d+1}$ with a vector $z \in \mathbb{R}^d$ and a real number b. For $x \in \mathbb{R}^d$ we have

$$\alpha(z + x) = \ell(z + x) + (b + \|z\|^2 - \|x\|^2)e_{d+1}.$$

Since H intersects the paraboloid $\ell(\mathbb{R}^d)$, we must have $b + \|z\|^2 > 0$ and hence can write

$$\alpha(z + x) = \ell(z + x) + (r^2 - \|x\|^2)e_{d+1}$$

with $r > 0$. Since F is a facet of P, this shows that the ball $\{z + x : x \in \mathbb{R}^d,\ \|x\| \le r\}$ in $\mathbb{R}^d$ contains no points of A except, in its boundary, the projections of the vertices of F. Consequently, $\pi F = D(z, A)$.

p. 497, l. -13, -12: Replace the clause in brackets by: (that is, not all passing through one point, and such that any d of their normal vectors are linearly independent).

p. 504, l. 5: Before the sum sign, insert $\mathbb{E}$.

p. 508, l. -10: Replace $0 \in \mathcal{K}$ by $0 \in K$.

p. 510, l. -11: Replace 'k-dimensional ball $B^k(x_0, \dots, x_{d-k})$' by '$(d-k)$-dimensional ball $B^{d-k}(x_0, \dots, x_{d-k})$'.

p. 532, l. -10: Replace 'Section 9.1' by 'Section 9.5'.

p. 554, l. 8: Replace $d_j^{(0)}(z)$ by $d_0^{(k)}(z)$.

p. 556, l. 3: The fraction should read

$$\frac{1}{V_d(rB^d)}.$$

p. 556, l. 6: Replace $d^{(j)}$ by $d_j^{(j)}$.

p. 626, formula (14.62): Under the limit, replace $u \downarrow \lambda$ by $\mu \downarrow \lambda$.

p. 629, l. -4: Replace $m\mu(K + S) = \mu(Z) = \mu(\overline{Z}) = 0$ by $m\psi(K + S) = \psi(Z) = \psi(\overline{Z}) = 0$.

p. 639, reference 40: replace (1979) by (1975).

p. 639, reference 57: Replace (2005) by (2004).

p. 642, reference 122: Replace (200) by (2000).

p. 645, reference 179: Replace (1971) by (1967).

p. 657, l. 3: Replace 'Ensembles aléatoires' by 'Ensembles fermés aléatoires'

p. 659, reference 518: Replace 902 by 901.

p. 664, reference 631: Replace "Stochastical" by "Stochastic".

p. 667, reference 718: Delete the full stop after "Wahrscheinlichkeitstheorie".

p. 673, l. 4: Replace 'zufälliger Polygone' by 'zufälliger konvexer Polygone'.