Changes, typos and errata (Book version)

June 5, 2014

Page 25, suppress the sentence after equation (1.44), and replace by:
"An initial condition vector in the same direction as ξ_i, has a response in the direction of ξ_i with a "speed of response" of λ_i."

Page 40, after (1.69) in line 3, replace "$\gamma_1 = a_1/\alpha$" by "$\gamma_p = a_p/\alpha$"

Page 40, in (1.71), change the index in the first sum "$\sum_{k=1}^{\infty}$" by "$\sum_{k=p}^{\infty}$".

Page 107, in 1.27.2, instead of "$\phi_t = M \to M$" write "$\phi_t : M \to M$".
instead of "the action of ϕ_{τ_1} and ϕ_{τ_1}" write "the action of $\boldsymbol{\varphi}_{\tau_1}$ and $\boldsymbol{\varphi}_{\tau_2}$"

Page 109, line four, instead of "$2\pi/a$" write "$2\pi/b$".

Page 164, after "if $|\lambda_i|>1$" delete: "then $\mathbf{D}^k \to \mathbf{0}$ as $k \to \infty$. Moreover,"

Page 165, Theorem 1.13, in (1.326) replace "$\dot{\mathbf{x}}_u = -\mathbf{x}_u$" by "$\dot{\mathbf{x}}_u = +\mathbf{x}_u$".
Replace "if $\mathrm{Det}\mathbf{A}_i > 0$ ($\mathrm{Det}\mathbf{A}_i > 0$)." by "if $\mathrm{Det}\mathbf{A}_i > 0$ ($\mathrm{Det}\mathbf{A}_i < 0$)."

Page 166, In Theorem 1.15, replace "$N' \subseteq U$" by "$N' \subseteq \mathbb{R}^n$".

Page 167, line 8 replace "to be hyperbolic point of $\mathbf{g}$" by "to be hyperbolic periodic point of $\mathbf{g}$".

Page 171, line 4 replace "$(\mathbf{g} \cdot \boldsymbol{\rho})_i(t) = \breve{\mathbf{g}}_i \cdot (\breve{\boldsymbol{\rho}}_i(t))$" by "$(\mathbf{g} \cdot \boldsymbol{\rho})_i(t) = \breve{\mathbf{g}}_i(\breve{\boldsymbol{\rho}}_i(t))$".

Pages 172,173,174, in eq. (1.340),(1.341),(1.343),(1.344),(1.346),(1.347), the signs of inequalities must be inverted.

Page 509: correct "whose structure are of nonlinear type" as follows:
"whose structures are of nonlinear type."

Page 221, in the paragraph, replace "*local map*" by "*local chart*",
"(Ω, φ) will be a *local map* ", replace by "(Ω, φ) will be a *local chart* .."

Page 221 "The map f is C^r is it is C^r at any point .", please replace by "The map f is C^r **if** it is C^r at any point.

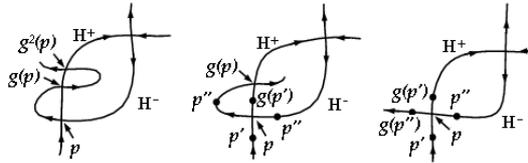**Page 260**: please replace " $\lim\limits_{x \to +\infty} F(x) = 0$" by " $\lim\limits_{x \to -\infty} F(x) = 0$"

Page 720, please add the sign "-" in the exponent of:
$c_n = \frac{1}{2\pi} \int_\alpha^{\alpha+2\pi} e^{i\omega t} f(t) dt$, replace by: $c_n = \frac{1}{2\pi} \int_\alpha^{\alpha+2\pi} e^{-i\omega t} f(t) dt$

Page 154, in the picture;
(middle-picture): at the bottom, the point p'' must be replaced by p'.
(right-picture): At the bottom, the point p'' must be replaced by p'; that gives:

Page 654, after the word "*real*", please insert: "α_0 *such that*":
Hausdorff-Besicovitch dimension (or fractal dimension): It is for F the *real* α_0 such that $m_\alpha(F) = +\infty$ if $\alpha < \alpha_0$ and $m_\alpha(F) = 0$ if $\alpha > \alpha_0$. It is Besicovitch who showed the existence of such a *real number* α_0 ..

Page 697, in the 2nd theorem:
replace "$\dfrac{f(x) - f(a)}{(x-a)^n}$" by "$\dfrac{f(x) - p(x)}{(x-a)^n}$"

Page 613, obviously, the entire sentence must be taken as a trivial short-cut:
"A. Smith attributed an important responsibility to these leaders ... "

Page 655, after the def. of normed vector space, delete the "s" in "metrics":
"The normed spaces are thus metrics,.."

Page 658, in (A.30), please replace $\mathbf{x}_{n+1}$ by $\mathbf{x}_m$, which becomes then:
$$\|\mathbf{x}_m - \mathbf{x}_n\| \leq c^{n-1} \cdot \frac{\|\mathbf{x}_2 - \mathbf{x}_1\|}{1-c} \qquad \text{(A.30)}$$

Page 657, in the 3rd line, preferably replace $L^p[a,b]$ by $\mathcal{L}^p[a,b]$, thereby:
", and is denoted $\mathcal{L}^p[a,b]$."

Page 654, at the 8th line "(When F is a regular injective *nappe*.." must be replaced by (When F is a regular injective *patch* ...".
Footnote 11 concerned French book version, and must be deleted here.
Footnote 11 gives the def. of *nappe* and not that of *patch,* to disambiguate, French word "*nappe*" has two different meanings: (1) the same as *nappe* in Eng. (in geometry), (2) and *patch* in Eng. (in differential geometry).

Page 678, (see above) twice the term "patch" must replace "nappe"

Page 668, in 2nd Cauchy-Riemann condition, read "$\frac{\partial u}{\partial x_2}(a_1, a_2) = -\frac{\partial v}{\partial x_1}(a_1, a_2)$" instead of "$\frac{\partial u}{\partial x_2}(a_1, a_2) = -\frac{\partial v}{\partial x_2}(a_1, a_2)$."

Page 680, read "extended complex plane" instead of "complete plane"
Page 681, idem as above.

Page 669, in the proposition A.4, replace "$|z - a| > r$," by "$|z - a| < r$".

Page 672, in the table, replace "$f(z) = e^{1/z^2}$" by "$f(z) = e^{-1/z^2}$".

Page 673, in the Definition A.60 (Meromorphic function), "$\mathbb{C}$" must be obviously understood as "$\widehat{\mathbb{C}}$". That is, $\widehat{\mathbb{C}} = \mathbb{C} \cup \{\infty\}$.

Page 657, in line 3 replace "*and is noted $\mathcal{L}^p[a,b]$.*" and add:
$\mathcal{L}^p[a,b]$ is a vector space. It is also possible to define the function with positive real values: $\|f\|_p := (\int_a^b |f(t)|^p \, dt)^{\frac{1}{p}}$; this function is not a norm since $\|f\|_p = 0$ for any null function f almost everywhere, and so not necessarily zero everywhere. Let F be the subset of $\mathcal{L}^p[a,b]$ that consists of null functions almost everywhere. F is a *vector subspace*.
Theorem.A.9. The quotient space $L^p[a,b] := \mathcal{L}^p[a,b]/F$ is a Banach space if $p \in \mathbb{R}_+^* \setminus]0,1[$.

Page 593, in eq. (7.285), replace "$d_0 = f(z_0) + g(x_0)$" by "$d_0 = f(z_0) - g(x_0)$"

Page 664, In the caption of Fig.A, replace "*Left:* Rise to a power" by "*Left:* Raising to a power"

Page 664, in A.3.5 replace in the sentences "the rise to" by "the raising to "