

The statement of Proposition 1.2.13 on p.11 contains an error. The correct statement is that (a)  $\Leftrightarrow$  (b)  $\Leftrightarrow$  (c) and (d). See: M. Barczy and G. Pap (2006) Portmanteau theorem for unbounded measures. *Statist. Probab. Lett.* **76** 1831–1835.

The statement of Proposition 1.2.19 on p.13 contains an error. The correct statement is that (a)  $\Leftrightarrow$  (b)  $\Leftrightarrow$  (c) and (d). See: M. Barczy and G. Pap (2006) Portmanteau theorem for unbounded measures. *Statist. Probab. Lett.* **76** 1831–1835.

p.27 Eq. (2.8) CHANGE  $y_{n-j}$  TO  $y_{j-n}$  (twice)

p.27 Theorem 2.2.4 is true as stated, but the proof needs to be modified. Equation (2.11) is not true, but it does follow from (2.7) that

$$(1) \quad |z_j(t)|^2 \sim \frac{t^{2(a-\alpha)}(\log t)^{2m}}{(m!)^2} x_{j-m}$$

where  $m = \max\{n : x_{j-n} \neq 0\}$ , so that  $|z_j(t)|^2 \rightarrow \infty$  as  $t \rightarrow \infty$ . Equation (2.12) is not true, but it does follow from (2.8) that

$$(2) \quad |z_j(t)|^2 + |w_j(t)|^2 \sim \frac{t^{2a}(\log t)^{2m}}{(m!)^2} (|x_{j-m}|^2 + |y_{j-m}|^2)$$

where  $m = \max\{n : |x_{j-n}|^2 + |y_{j-n}|^2 \neq 0\}$ , so that again  $|z_j(t)|^2 \rightarrow \infty$  as  $t \rightarrow \infty$ . This also shows that  $t \mapsto \|t^B \theta\|$  is regularly varying, see Remark 6.1.6.

In Remark 3.1.18, if (3.16) holds then we get  $a_n \rightarrow a$  for some  $a \in \mathbb{R}^d$ , but we need not have  $a = 0$ . We have  $\Pi(c_n, \mu_n) * \varepsilon_{-a_n} \Rightarrow \nu$ , and hence  $\Pi(c_n, \mu_n) \Rightarrow \nu * \varepsilon_a$ . If (3.17) holds with  $a_1 = 0$  and  $Q \equiv 0$ , then we get  $\Pi(c_n, \mu_n) \Rightarrow \nu$  without centering. Thanks to Lina Wedrich for pointing out this error.

p.52 The condition in Theorem 3.2.2 (a) is the same as Theorem 3.1.16 (a), and hence it should read as follows: For some  $\sigma$ -finite Borel measure  $\phi$  on  $\mathbb{R}^k \setminus \{0\}$  that assigns finite measure to sets bounded away from the origin, we have

$$\sum_{j=1}^{k_n} \mu_{nj}(S) \rightarrow \phi(S) \text{ as } n \rightarrow \infty$$

for all Borel subsets  $S$  of  $\mathbb{R}^k$  that are bounded away from the origin and satisfy  $\phi(\partial S) = 0$ . Thanks to Takahiro Hasebe for pointing out this error.

p.64 Condition (i) is the same as as Theorem 3.1.16 (a), and hence it should read: For some  $\sigma$ -finite Borel measure  $\phi$  on  $\mathbb{R}^k \setminus \{0\}$  that assigns finite measure to sets bounded away from the origin, we have

$$\sum_{j=1}^{k_n} \mu'_{nj}(S) \rightarrow \phi(S)$$

for all Borel subsets  $S$  of  $\mathbb{R}^k$  that are bounded away from the origin and satisfy  $\phi(\partial S) = 0$ .

p.65 Four lines above (3.52) the definition of  $c_n$  should read

$$c_n = -a_n + \sum_{j=1}^{k_n} \left\{ b_{nj} + \int \left( \frac{x}{1 + \langle x, x \rangle} \right) \mu'_{nj} \{dx\} \right\}.$$

Thanks to Takahiro Hasebe for pointing out this error.

p.65 In (3.54) replace  $\mu_{nj}$  by  $\mu'_{nj}$  (twice). Thanks to Takahiro Hasebe for pointing out this error.

p.67 l.-10 should read “according to the formula (3.33).”

In Proposition 5.1.8 CHANGE (5.8) or (5.8) TO (5.8) or (5.9)

Remark 6.1.6: When  $B$  is in Jordan form, the function  $t \mapsto \|t^B \theta\|$  in the Euclidean norm need not be monotone. For example, take

$$B = \begin{pmatrix} 5/8 & 0 & 0 \\ 1 & 5/8 & 0 \\ 0 & 1 & 5/8 \end{pmatrix}$$

and  $x = (1, -1, 1)'$ . Then

$$\|t^B x\| = t^{5/8} \sqrt{1 + (\log t - 1)^2 + ((\log t)^2/2 - \log t + 1)^2}.$$

is not monotone increasing, see Figure 1. The argument in Remark 6.1.6 is not valid because equations (2.11) and (2.12) are not true (see (1) and (2) above). It follows from (1) and (2) above that  $t \mapsto \|t^B \theta\|$  is regularly varying for the Euclidean norm, when  $B$  is in Jordan form. Then  $t \mapsto \|t^B \theta\|/t$  is also regularly varying, and so it follows using Lemma 5.3.8 that  $t \mapsto \|t^B \theta\|_0$  in (6.6) is both regularly varying and

strictly increasing. If  $B$  is in Jordan form with no nilpotent part, then it follows easily from (2.7) and (2.8) that  $t \mapsto \|t^B \theta\|$  is monotone increasing for the Euclidean norm, and Remark 6.1.6 is true as stated.

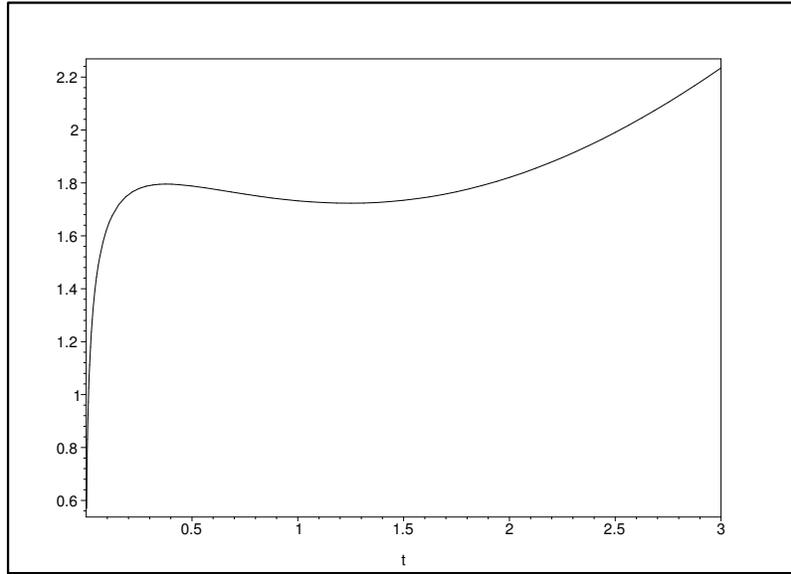


FIGURE 1. The function  $t \mapsto \|t^B x\|$  is not monotone.

Remark 6.1.6: This remark is also true on  $\mathbb{R}^2$  (and obviously on  $\mathbb{R}^1$ ) if  $B$  is the exponent, in Jordan form, of some operator stable law. A simple reparameterization  $s = \log t$  shows that the orbit  $\{t^B \theta : t > 0\}$  is the solution curve to the linear differential equation  $dx/ds = Bx$  with initial condition  $x(0) = \theta$ . Then  $t \mapsto \|t^B \theta\|$  is strictly increasing in the Euclidean norm if the velocity vectors point outward from the unit sphere, i.e., if  $\langle Bx, x \rangle > 0$  for all  $x \neq 0$ . We have already noted that Remark 6.1.6 is true if  $B$  is in Jordan form with no nilpotent part. Otherwise we have

$$B = \begin{pmatrix} a & 0 \\ 1 & a \end{pmatrix}$$

where  $a \geq 1/2$  by Theorem 7.2.1, and then

$$\langle Bx, x \rangle = ax_1^2 + x_1x_2 + ax_2^2 = (x_1 + x_2)^2/2 + (a - 1/2)(x_1^2 + x_2^2) > 0.$$

In Theorem 7.3.16 change  $a \in (-\infty, \infty)$  to  $a \in \mathbb{R}^d$

In Theorem 10.6.7 change (10.79) to (10.78)