Weak Convergence and Empirical Processes

A. W. Van der Vaart and Jon A. Wellner

Changes and Corrections, corrected second printing (2000)

October 2001, February 2003, July 2003

- Page 145: In Corollary 2.6.12, add that F must be the envelope function of the underlying VC-subgraph class, also if $\mathcal{F}$ is a true subset of the symmetric convex hull of this VC-subgraph class.
- Page 328, line 6: The claimed inequality is false as stated, but it is true with the addition of the constant $(e^2-3)/(2(e^{-1}-1)^2) < 6$ multiplying the function $2(e^{x/2}-1)^2$ on the right side.
- Page 334, line 13: Insert $\sum_{j=1}^{N_n}$ before the expectation on the right side.
- Page 441, Proposition A.2.6: The probability inequality $\mathrm{P}(\sup_t X_t > \lambda) \leq \mathrm{P}(\sup_t Y_t > \lambda)$ requires the additional condition that $\mathrm{E}X_t^2 = \mathrm{E}Y_t^2$ for every $t \in T$. The inequality $\mathrm{E}\sup_t X_t \leq \mathrm{E}\sup_t Y_t$ is valid under the conditions as stated, and can be deduced from the probability inequality (with the strengthened hypothesis), but it is not an immediate consequence. For the inequality $\mathrm{E}\sup_t |X_t| \leq 2\mathrm{E}\sup_t |Y_t|$ it is required in addition either that $\mathrm{E}X_t^2 = \mathrm{E}Y_t^2$ for every $t \in T$ or that $X_t = 0$ almost surely for some $t \in T$. (In the second case we have $\mathrm{E}\sup_t |X_t| \leq \mathrm{E}\sup_{s,t}(X_s - X_t) = 2\mathrm{E}\sup_t X_t$, by symmetry of X.)