20. (a)⇒(b): $u\in B(E,F)$, 则存在唯一的 $u^*: F^*\to E^*$, $u^*\in B(F^*,E^*)$, 且$\|u\|=\|u^*\|$.

且满足 $\langle u^*(f^*),x\rangle=\langle f^*,u(x)\rangle$, $\forall f^*\in F^*$, $x\in E$.

设 $x_\alpha \underset{\alpha}{\to} x$ (网收敛), $\alpha\in\Lambda(x)$, 则 $\forall x^*\in E^*$, $x^*(x_\alpha)\to x^*(x)$.

则 $\langle u^*(f^*),x_\alpha\rangle\to\langle u^*(f^*),x\rangle$, $\forall f^*\in F^*$

即 $\langle f^*,u(x_\alpha)\rangle\longrightarrow\langle f^*,u(x)\rangle$, $\forall f^*\in F^*$. 故 $u(x_\alpha)\xrightarrow{w}u(x)$.

(b)⇒(c): 显然.

(c)⇒(a):