Hans Jarchow, (Zürich, Switzerland)

Hahn-Banach extension of bilinear forms

A pair (X, Y) of Banach spaces has the bilinear extension property if, given any Banach spaces $\widetilde{X}$ and $\widetilde{Y}$ containing X resp. Y as a subspace, every (bounded) bilinear form on $X \times Y$ is the restriction of some bilinear form on $\widetilde{X} \times \widetilde{Y}$. We will show that if (X, Y) has this property, then X^* and Y^* verify Grothendieck's Theorem (every operator from that space into a Hilbert space is absolutely summing), and we will discuss additional conditions which imply that the converse is also true.