The div-curl-Lemma by the FA-Toolbox

Dirk Pauly

Fakultät für Mathematik, Universität Duisburg-Essen, Campus Essen, Germany
dirk.pauly@uni-due.de

ABSTRACT

As in the previous talk by Marcus Waurick, we will discuss the well known div-curl-lemma but from a slightly different point of view. Our ideas came up during a special semester at RICAM in Linz last fall. Using simple standard tools from functional analysis we can easily prove generalizations and global (and hence local) versions of the so-called div-curl-lemma. The key observation is that a certain compact embedding holds true. Mixed boundary conditions and weak Lipschitz domains are possible.