

Boundary value problem for the biharmonic operator in a ball

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This talk deals with several boundary value problems (bvp) for the biharmonic operator in the unit ball. They are divided into two different classes: (a) bvp satisfying Shapiro-Lopatinskii condition and (b) bvp violating the latter requirement. In the case (a) existence results of Fredholm type hold, while in the case (b) non-Fredholm results could appear. A bvp is of non-Fredholm type if it possesses infinite dimensional kernel or cokernel. For several examples explicit formulas for the corresponding solutions are given.