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24. Positivity issues of biharmonic Green's functions under Dirichlet boundary conditions

In general, higher order elliptic equations and boundary value problems like the biharmonic equation or the linear clamped plate boundary value problem do not enjoy neither a maximum principle nor a comparison principle or—equivalently—a positivity preserving property. It is shown that, on the other hand, for bounded smooth domains $\Omega \subset \mathbb{R}^n$, the negative part of the corresponding Green's function is "small" when compared with its singular positive part, provided that $n \geq 3$.