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Inequalities for the Vibrating Clamped Plate Problem

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Abstract: We study the eigenvalues of the vibrating clamped plate problem. We have made improvements on the bounds of the ratios of the eigenvalues of the biharmonic operator (clamped plate) using the methods of Payne, Polya, and Weinberger. The difference in our proof lies mainly with the trial functions and the orthogonality arguments. While Payne, Polya, and Weinberger and Hile and Yeh project away components along u_1, u_2, \dots, u_k to meet the orthogonality conditions, we use a translation/rotation argument to meet these conditions.

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