



AUTHORS' REPLY

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The authors wish to thank Professor Laura for his interesting comments on the author's recent article [1]. Even though we have developed a theory concerning a plate with some point supports to determine those support positions to maximize the fundamental eigenvalue, the same theory can be applied for the SCSF or SSSF plate—two opposite boundary conditions are simply supported—with line support [1, 2]. The reasons are the particular properties of those plates: (1) the line supports are parallel to the free edge; and (2) the nodal line of the original structure's second eigenfunction (ψ_{20}) is also parallel to the free edge—which can be verified by solving the eigenvalue problem of the original structure using the finite element analysis. Those facts imply that the line support can be placed at the nodal line of ψ_{20} , and in this case the optimality condition ($\lambda' = 0$) is satisfied [3]. Where λ' is the eigenvalue sensitivity with respect to the position of the support. Thus, we believed that the theory of the article [3] can be applied to the special plates in references [1, 2] as Laura comments. The same explanation can be applied in the case of a circular plate or membrane with a circular line support.

REFERENCES

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3. K. M. WON and Y. S. PARK 1998 *Journal of Sound and Vibration* **213**, 810–812. Optimal support positions for a structure to maximize its fundamental natural frequency.