

## **Research Highlight: Eigenvalue Embedding of Undamped Vibroacoustic Systems with No-spillover**

**Work of Associate Professor CHU Delin**

Prof. CHU Delin and his collaborators have studied the eigenvalue embedding problem of the undamped vibroacoustic system with no-spillover (EEP-UVA), which is to update the original system to a new undamped vibroacoustic system, such that some eigen-structures are replaced with newly measured ones, while the remaining eigen-structures are kept unchanged. They have provided a set of parametric solutions to the EEP-UVA. The freedoms in the parametric matrices can be further exploited to achieve some other desirable properties. The performance of the proposed algorithms have been illustrated by numerical examples.

### **Reference:**

[1] J Qian, Y Cai, D Chu, R.C.E. Tan - SIAM Journal on Matrix Analysis and Applications, Vol. 38, No. 4, pp. 1190-1209, 2017.