Technische Universität München

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Improving Computational Efficiency of a Dynamic Soil-Structure Interaction Analysis Program

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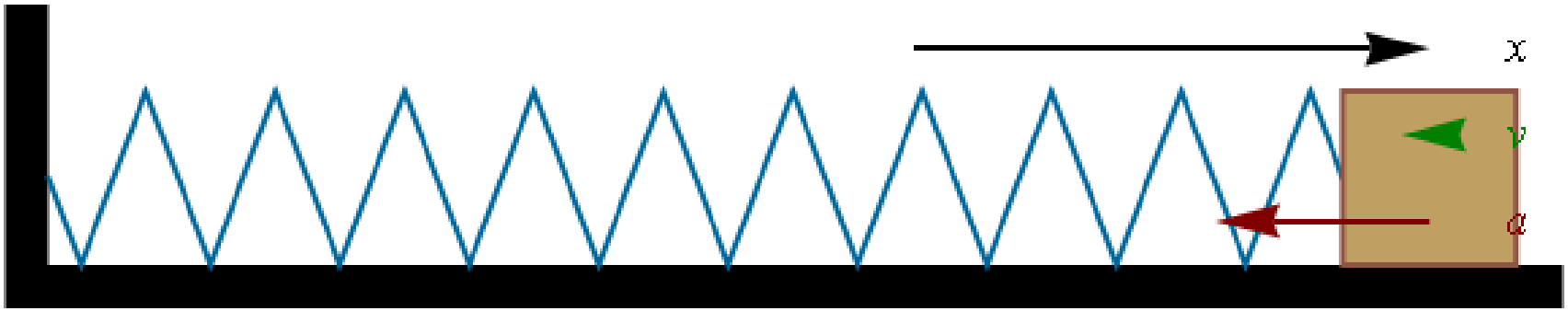
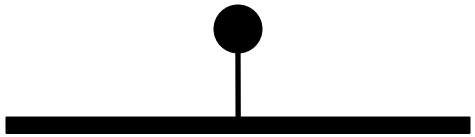
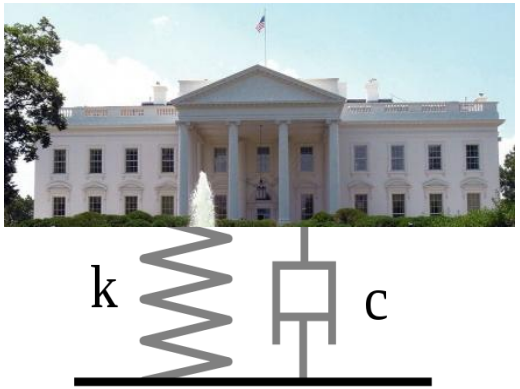
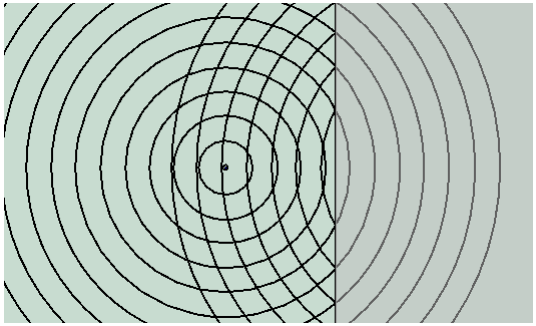


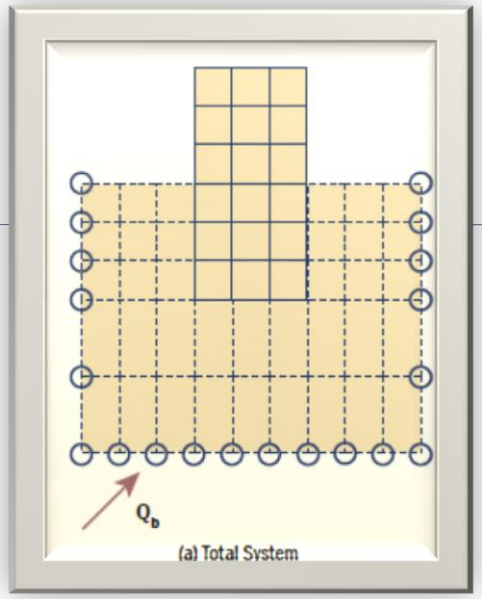
Soil-Structure System –
Structural vs. Geotechnical

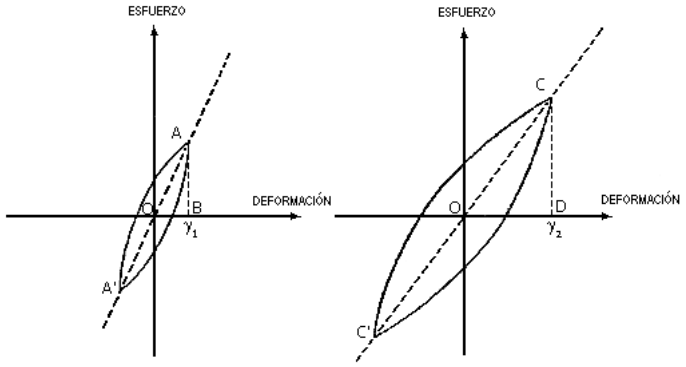


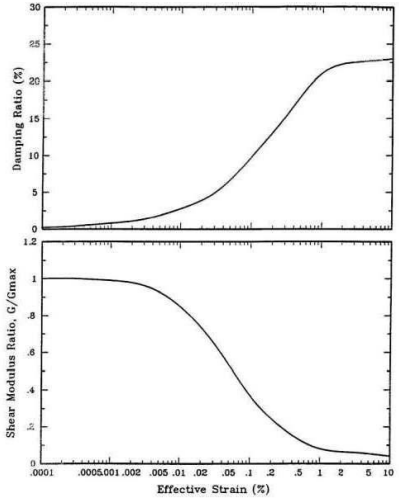


Two Challenges

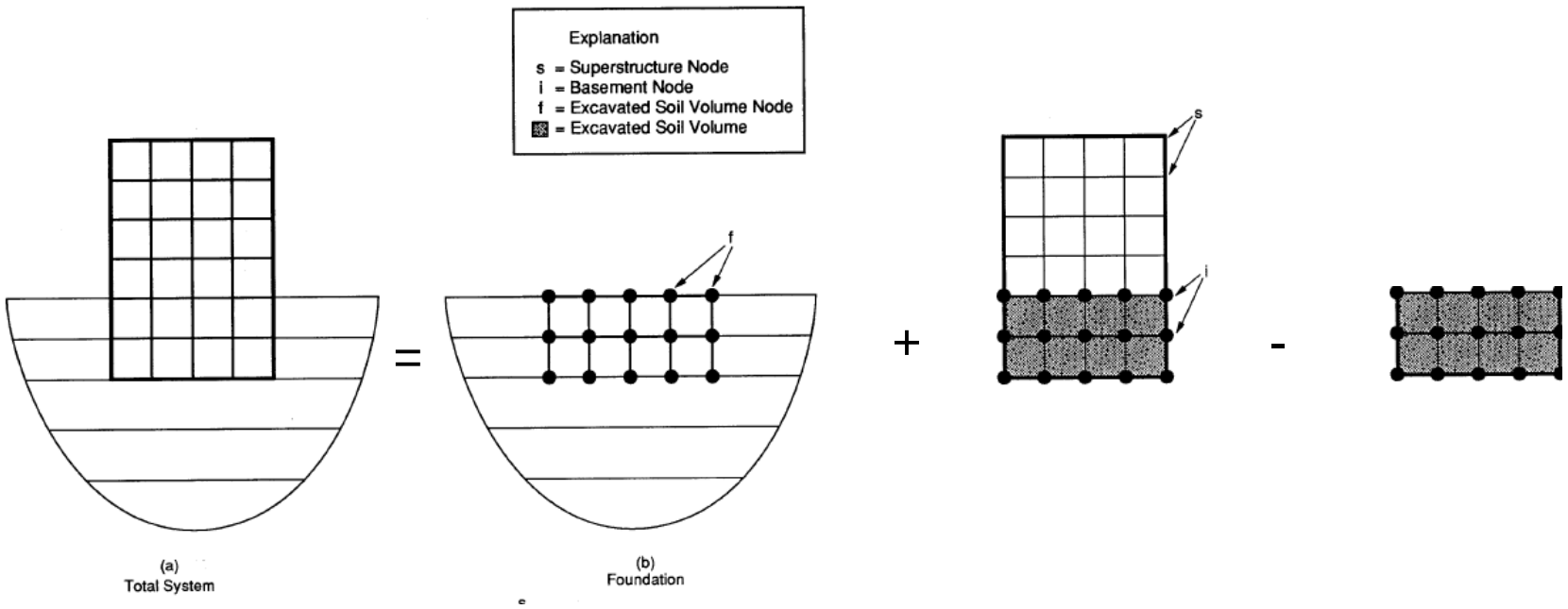








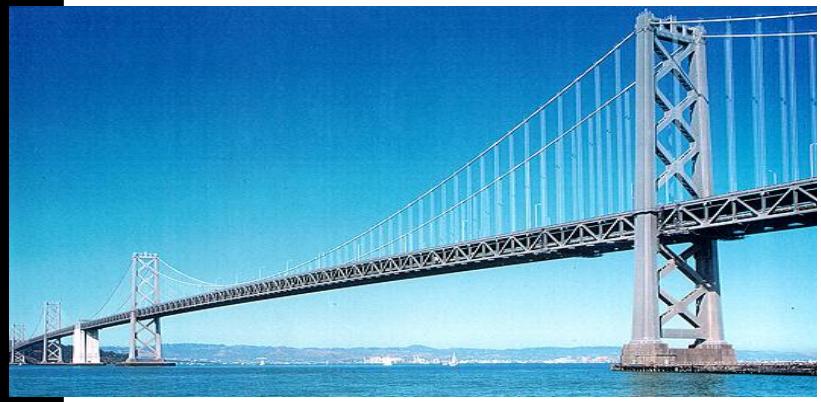
SASSI –
a System for Analysis of Soil-Structure Interaction

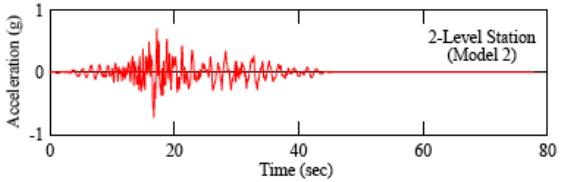


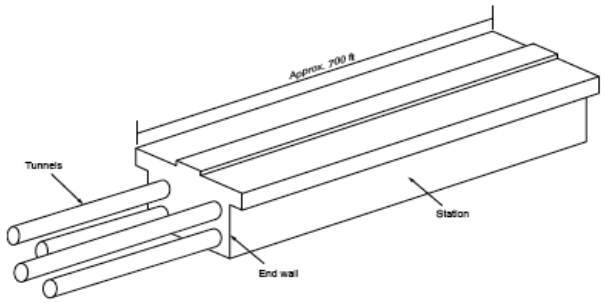
(modified from SASSI Manual)

Sub-structuring Approach

SASSI Applications

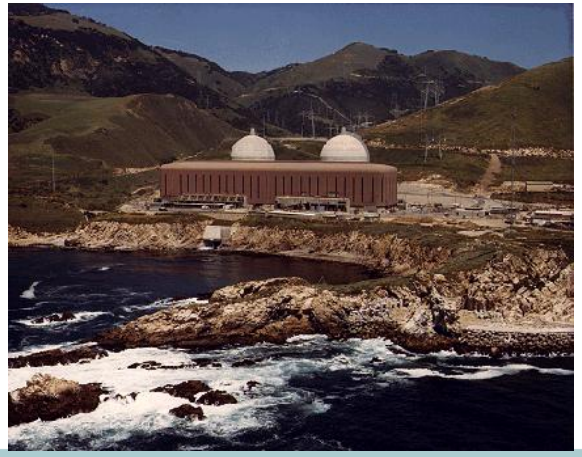






3-Level Station

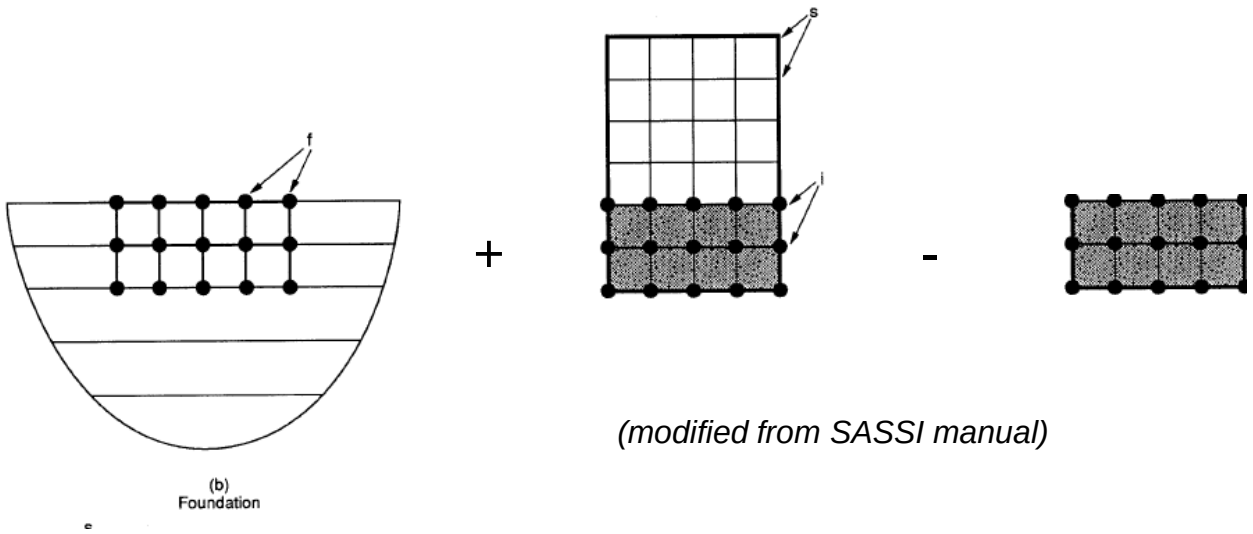
Longitudi ansverse



What do you want to do?

$$\begin{bmatrix} C_{ss} & C_{si} \\ C_{is} & (C_{ii} - C_{ff} + X_{ff}) \end{bmatrix} \begin{Bmatrix} U_s \\ U_f \end{Bmatrix} = \begin{Bmatrix} P_s \\ P_f \end{Bmatrix}$$

$$C(\omega) = K - \omega^2 M \qquad X_{ff} = F_{ff}^{-1}$$



(modified from SASSI manual)