Meeting minutes of 21.3.2017

**Team**: Modal monsters

**Chairmen**: Michael Zauner

**Secretary**: Alexandra Leukauf

**Present**: Michael Zauner  
Jan Valasek   
Sebastian Thormann  
Alexandra Leukauf

**Main discussion:**

We discussed each eigenvalue solver, which are mentioned in homework and we also decided to share our work by using GitHub. Michael explained his program for the first 4 eigenvalue solvers (vector iteration,2 inverse vector iteration, Rayleigh quotient iteration and higher eigenvalues using inverse vector iteration in orthogonal direction). Afterwards we tested the eigenvalue solver programs and spoke about the occurring phenomenons.

**Distribution of work:**

Michael: done

Jan: Subspace-iteration

Sebastian: Eigenvalues and mode shapes

Me: QR-algorithm

**Main difficulty:**

Inverse Vector Iteration: When we chose a shift point of 1.2, the program´s result for the eigenvalue was 1.4, even though 1.4 shouldn´t be an eigenvalue.

**Main insight:**

Rayleigh: The inverse matrix becomes singular, if sigma is chosen as an eigenvalue. The program´s eigenvectors

Eigenvalues converge faster than their eigenvectors

If 2 eigenvalues are close to each other (e.g. 3.9 and 4), the Rayleigh quotient iteration converges slower to the bigger value.

**Next meeting**: 28.3.2017 12:00 BA 1.Stock - preparing for the workshop