Introduction:
MEMS is a platform to combine mechanical and electrical components on unique base. Accelerometers had the unique feature to measure acceleration, in which the type which releases energy for the measurements are of this type.

Construction & Computation: The construction of this design involves two stages. They are, setting of geometry, applying of materials required to the respective domains. According to the mathematical basis,

\[ \ddot{x} + 2\xi \omega_n \dot{x} + \omega_n^2 x = 0 \]

Computation is done to study the results with the help of required parameters and different analysis procedures. For the evaluation of good results, the simulation is done with different geometries, materials.

The meshing of the constructed design is done in the way of analysis for equal distribution and exact results.

Results: Results from the simulation, sensitivities and potentials obtained are as follows.

<table>
<thead>
<tr>
<th>Result type</th>
<th>Type of construction</th>
<th>3 layer with lead zirconate titanate</th>
<th>3 layer with quartz</th>
<th>3 layer with ZnO</th>
<th>4 layer with lead zirconate titanate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement (µm)</td>
<td>0.0167</td>
<td>0.0207</td>
<td>7.6437*10^-4</td>
<td>5.0855</td>
<td>2.099*10^-7</td>
</tr>
<tr>
<td>Potential (V)</td>
<td>4.1003</td>
<td>2.0332</td>
<td>9.77</td>
<td>0.977</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions: The analysed model in this project gives very good results and good potential output as its thickness and its size is very low it can also be practically possible to construct with the help of obtained results. ZnO and PZT films are the two primary materials reported for use in bulk- or surface-micromachined piezoelectric MEMS accelerometers.

References: