

Example Code

Result Array Dimensioning Requirement

There are aspects of Dymola that aren't available via this function because of the way the external routine reports an output back to the programme.

<pre>Real eigval[:, :]; Real eigvec[:, :]; ...omitted code... algorithm (eigval,eigvec)= Modelica.Math.Matrices.eigenValues (A); ...omitted code...</pre>	<p>eigval has to be dimensioned ahead of time. It will always have two columns for Re & Im components.</p>
<pre>Real eigval[5, 2]; Real eigvec[5, 5]; ...omitted code... algorithm (eigval,eigvec)= Modelica.Math.Matrices.eigenValues (A); ...omitted code...</pre>	<p>eigval needs as many rows as the size of the input matrix size (A) taken here to be 5.</p>
<pre>Real eigval[5, 2]; Real eigvec[5, 5]; ...omitted code... algorithm eigval = Modelica.Math.Matrices.eigenValues (A); ...omitted code...</pre>	<p>Providing one array only will result in the eigenvalues being returned without corresponding eigenvectors.</p>

Figure 4. Code not providing sizes of results matrices explicitly fails when using eigenValues