Continuous controlling of electro-pneumatic servo actuators

Petar Mišljen¹
Miloš Pavić¹
Nikola Radosavljević¹
Katarina Nestorović¹

¹Military Technical Institute Rocket System Department, Serbia
Table of content

› Subject of research
› Objectives and outcomes
› Results and analysis
› Conclusion
Subject of research

› Improving control of the operation of pneumatic actuator

› Pneumatic actuator is mostly used in discrete operating mode

› Transition from discrete to continuous mode of operation
Objectives and outcomes

› Controlling operation of the pneumatic actuator piston using PWM signal

› Using the piston position sensor

› Implementing feedback
Objectives and outcomes
Results and analysis

› Testing the operation of electro-pneumatic actuator
Results and analysis

32. Međunarodni kongres o procesnoj industriji, Beograd, 30-31. maj 2019
Results and analysis

![Graph](attachment:image.png)

**poz_1**

**signal_P_1**

B (time(ms))

<table>
<thead>
<tr>
<th>B (time(ms))</th>
<th>poz_1</th>
<th>signal_P_1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results and analysis

![Graph showing data analysis results](image-url)
Conclusion

› Achieved continuous monitoring of pneumatic actuator
› Bandwidth is 3Hz
› Applicable to slow industrial processes
› Possibility of further research by optimizing the management structure
Thank you for attention!