Problem Wk.8.4.3: Controller gains

Use your system functions from Homework 2 to find the best gain (the one with smallest dominant pole) $k_c$ for the head controller, given the following values for the sensor gain $k_s$.

Use the following values for the other parameters:

- $k_m = 250$
- $k_h = 0.48$
- $r_m = 4.5$
- $T = 0.02$

<table>
<thead>
<tr>
<th>$k_s$</th>
<th>Mag dominant pole</th>
<th>$k_c$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<td>2</td>
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6.01SC Introduction to Electrical Engineering and Computer Science
Spring 2011

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