Which (PhD thesis) option to pursue...?

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAD</td>
<td>RUN</td>
<td>SAD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RUN</td>
<td>6-MONTH DOWN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RUN</td>
<td>12-MONTH DOWN</td>
</tr>
</tbody>
</table>

End of 3rd year

1 year extension

2-year extension

<table>
<thead>
<tr>
<th>e- Energy</th>
<th>Experiment “Footprint”</th>
<th>Operation “Footprint”</th>
<th>Time “Footprint”</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 MeV</td>
<td>“Green” design @ 0L02</td>
<td>10 MeV Segmentation</td>
<td>June-November, 2011</td>
</tr>
<tr>
<td>10-60 MeV</td>
<td>Modify 4D spectrometer</td>
<td>Full Injector</td>
<td>&gt; November, 2011</td>
</tr>
<tr>
<td>1-3 GeV</td>
<td>Modify Hall B line</td>
<td>CEBAF to Hall B</td>
<td>&gt; November, 2011</td>
</tr>
</tbody>
</table>
6 Month Shutdown: CEBAF Injector for 10 MeV Operations
(or better yet a permanent capability...)

**Polarized Positron Experiment**
- Staged near Mott & spectrometer
- Footprint about 10’ x 10’ to scale
- Low Power <100 W (10 MeV X 10 uA)

**6 Month Shutdown**
- Remove differential pump & optics girders
- Install shield blocks with PSS egress
- Install 1-10 kW dump or reuse FCUP#2

![Diagram of CEBAF Injector for 10 MeV Operations]
Breakdown of Major Experiment Systems - Potential Responsibilities

Vacuum chambers, targets, diagnostics, power supplies, controls (JLAB)

Focusing solenoid & spectrometer (Princeton U.)

Iron Core Solenoid Magnet (DESY, Hamburg)

CsI crystal array (DESY, Zeuthen)

Polarimeter + DAQ (Grenoble, LPSC)
### 2 Year Plan

- Complete experiment proposal letter with budget request
- Reach an agreement (CEBAF/Segmentation, E-166 collaboration, funding)

<table>
<thead>
<tr>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPSC loan polarimeter from DESY, begin testing crystal, assembling DAQ</td>
<td>Build injector 10 MeV segmentation</td>
</tr>
<tr>
<td>JLab loan solenoid/spectrometer from Princeton, make functional again, test</td>
<td>Install experiment</td>
</tr>
<tr>
<td>Install electron “spigot” after cryo-unit</td>
<td>Commission and run experiment</td>
</tr>
<tr>
<td>Measurements and design work for segmentation begins</td>
<td>Remove or recover from segmentation</td>
</tr>
<tr>
<td>Complete integrated design of experiment with full simulations (scattering chamber + targets, collection optics, dumps, detectors, shielding)</td>
<td>Commission injector ready for CEBAF</td>
</tr>
<tr>
<td>Fabricate and test beam line components</td>
<td>Analyze experiment, defend thesis, publish results</td>
</tr>
<tr>
<td>Fabricate segmentation</td>
<td>Figure out what’s next...</td>
</tr>
<tr>
<td>Complete polarimeter &amp; move to Jlab</td>
<td></td>
</tr>
</tbody>
</table>
Funding possibilities for next 2 years...

Where we have begged...
- LPSC - Scientist + PhD
- JLab - Scientist + PhD + ME (12 person-weeks)

Where we intend to beg...
- CNRS/IN2P3 - 150 k€ for polarimeter (mechanics, DAQ...)
- LPSC - Scientist, PhD, technical staff
- JLAB - $150k for temporary segmentation & beam line, EGG/ME/EES/OPS
- DESY for polarized target and CsI crystal
- Princeton U. - solenoid and spectrometer magnets

How else we might subsidize our begging...
- Join ILC Positron Working Group
- JSA Initiative request in July 2010, awards in FY11
- DOE Early Career Scientist Grant 5 year, awards early 2010
- Idaho Accelerator Center recent award + joint JLab position