

Extending the Coverage of Automated Testing in ITER's Control System Software Distribution

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Disclaimer: The views and opinions expressed herein do not necessarily reflect those of the ITER Organization

Motivation: A Heap of Manual Tests

- For the ITER-maintained modules:
~20 test plans with >2000 pages
 - Test campaigns over 4-6 weeks
with every release
 - Spread of schedule means
more releases
 - Spread of budget means
less resources
- **Not sustainable!**



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Approach: Conversion to Automated Testing

- CI driven; RPM based
- Scripted (Python); creating a framework while converting tests
- End-to-end and integration testing
- Hardware-in-the-loop test stand
- After 2 years: 5 test plans converted
- E.g., PLC tests: 2 weeks → 2 hours

→ Huge effort, but the direction is right

```
31
32 self.file = ...
33 self.fingerpri
34 self.logdupes
35 self.debug = ...
36 self.logger = ...
37 if path:
38     self.file
39     self.file
40     self.fin
41
42 @classmethod
43 def from_setting
44     debug = set
45     return cls(
46
47 def
48
49
50
51
52
53
54
55
```



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UPM
BIG
SCIENCE