



EUROPEAN  
SPALLATION  
SOURCE



## Isrsc & LEBT Acceptance Tests in Pulsed Mode

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Test	Description	Result
<b>Setup HV power supply:</b>		
1	Setup HV power supply: Check HV power supply is off None	Success
2	Setup HV power supply: Set HV power supply current limit to maximum None	Success
3	Setup HV power supply: Set HV power supply voltage to 0V None	Success
4	Setup HV power supply: Set to ramp mode None	Success
5	Setup HV power supply: Set ramp to 1000V/s None	Success
<b>Setup repeller 01 power supply:</b>		
6	Setup repeller 01 power supply: Check Repeller 01 Power Supply is Off None	Success
7	Setup repeller 01 power supply: Set Repeller 01 Power Supply voltage to -3500V None	Success
8	Setup repeller 01 power supply: Set Repeller 01 Power Supply current to -2mA None	Success
<b>Setup repeller 02 power supply:</b>		
9	Setup repeller 02 power supply: Check Repeller 02 Power Supply is Off None	Success

10	Setup repeller 02 power supply: Set Repeller 02 Power Supply voltage to -700V None	Success
11	Setup repeller 02 power supply: Set Repeller 02 Power Supply current to -2mA None	Success
<b>Setup coil 01 power supply:</b>		
12	Setup coil 01 power supply: Check Coil 01 Power Supply is Off None	Success
13	Setup coil 01 power supply: Set Coil 01 Power Supply voltage to 9,5V None	Success
14	Setup coil 01 power supply: Set Coil 01 Power Supply current to 108,8A None	Success
15	Setup coil 01 power supply: Check Coil 01 Power Supply is On None	Success
<b>Setup coil 02 power supply:</b>		
16	Setup coil 02 power supply: Check Coil 02 Power Supply is Off None	Success
17	Setup coil 02 power supply: Set Coil 02 Power Supply voltage to 9,5V None	Success
18	Setup coil 02 power supply: Set Coil 02 Power Supply current to 68,9A None	Success
19	Setup coil 02 power supply: Check Coil 02 Power Supply is On None	Success
<b>Setup coil 03 power supply:</b>		
20	Setup coil 03 power supply: Check Coil 03 Power Supply is Off None	Success
21	Setup coil 03 power supply: Set Coil 03 Power Supply voltage to 9,5V None	Success
22	Setup coil 03 power supply: Set Coil 03 Power Supply current to 228,4A None	Success

23	Setup coil 03 power supply: Check Coil 03 Power Supply is On None	Success
<b>s interlock:</b>		
24	Unlock magnetron's interlock: Unlock interlock (push) None	Success
25	Unlock magnetron's interlock: Unlock interlock (release) None	Success
<b>Magnetron status:</b>		
26	Magnetron status: Magnetron MW Power Status None	Success
<b>Setup magnetron:</b>		
27	Setup magnetron: Magnetron is Off None	Success
28	Setup magnetron: Reset magnetron (push) None	Success
29	Setup magnetron: Reset magnetron (release) None	Success
30	Setup magnetron: Set Magnetron pulse low level to 0 None	Success
31	Setup magnetron: Set Magnetron pulse high level to 1015 None	Success
32	Setup magnetron: Set Magnetron pulse frequency to 14Hz None	Success
33	Setup magnetron: Set Magnetron pulse width to 6000us None	Success
<b>Setup ATU:</b>		
34	Setup ATU: ATU X Position is manual None	Success
35	Setup ATU: ATU Y Position is manual None	Success

36	Setup ATU: ATU X movement enabled	None	Success
37	Setup ATU: ATU Y movement enabled	None	Success
38	Setup ATU: ATU X Position is 5500	None	Success
39	Setup ATU: ATU Y Position is 5500	None	Success
40	Setup ATU: ATU X Position is 5000	None	Success
41	Setup ATU: ATU Y Position is 5000	None	Success
42	Setup ATU: ATU X Position is auto	None	Success
43	Setup ATU: ATU Y Position is auto	None	Success
<b>Check chopper interlock status:</b>			
44	Check chopper interlock status: Chopper Chopping Voltage Alarm status	None	Success
45	Check chopper interlock status: Chopper Cooling Water Flow Status status	None	Success
46	Check chopper interlock status: Chopper Power System Status status	None	Success
<b>Check repeller interlock status:</b>			
47	Check repeller interlock status: Electrodes Cooling Water Flow Status	None	Success
<b>Global interlock status:</b>			
48	Global interlock status: Source Status For Radioprotection	None	Success
<b>Coils cooling interlock status:</b>			

49	Coils cooling interlock status: Coil 1 Cooling Water Flow Status None	Success
50	Coils cooling interlock status: Coil 1 Temperature Status None	Success
51	Coils cooling interlock status: Coil 2 Cooling Water Flow Status None	Success
52	Coils cooling interlock status: Coil 2 Temperature Status None	Success
53	Coils cooling interlock status: Coil 3 Cooling Water Flow Status None	Success
54	Coils cooling interlock status: Coil 3 Temperature Status None	Success
<b>High voltage PS interlock status:</b>		
55	High voltage PS interlock status: Access Status None	Success
<b>Physical access interlock status:</b>		
56	Physical access interlock status: Access Status None	Success
57	Physical access interlock status: Radioprotection Sensor Status None	Success
58	Physical access interlock status: Neutral To Ground Resistor Switch Stat None	Success
<b>Matching transfer cooling interlock status:</b>		
59	Matching transfer cooling interlock status: Matching Transformer Cooling Water Flow None	Success
<b>Plasma chamber interlock status:</b>		
60	Plasma chamber interlock status: Plasma Chamber Cooling Water Flow Statu None	Success
<b>Coils power interlock status:</b>		

61	Coils power interlock status: Coil 1 Power Supply Status None	Success
62	Coils power interlock status: Coil 2 Power Supply Status None	Success
63	Coils power interlock status: Coil 3 Power Supply Status None	Success
<b>Beam stop cooling interlock status:</b>		
64	Beam stop cooling interlock status: Beam Stop Cooling Water Flow Status None	Success
<b>Solenoid and klixon interlock status:</b>		
65	Solenoid and klixon interlock status: Solenoid 1 Cooling Water Flow Status None	Success
66	Solenoid and klixon interlock status: Klixon 1 power Stat None	Success
67	Solenoid and klixon interlock status: Solenoid 2 Cooling Water Flow Status None	Success
68	Solenoid and klixon interlock status: Klixon 2 power Stat None	Success
<b>Collimator interlock status:</b>		
69	Collimator interlock status: Collimator Cooling Water Flow Status None	Success
<b>EMU interlock status:</b>		
70	EMU interlock status: EMU 1 Cooling Water Flow Status None	Success
71	EMU interlock status: EMU 2 Cooling Water Flow Status None	Success
<b>Faraday cup interlock status:</b>		
72	Faraday cup interlock status: Faraday Cup Cooling Water Flow Status None	Success

<b>Iris interlock status:</b>		
73	Iris interlock status: IRIS Cooling Water Flow Status None	Success
<b>Vacuum interlock status:</b>		
74	Vacuum interlock status: Vacuum Status None	Success
<b>colision:</b>		
75	Check procedure anti-colision: Put FC outside None	Success
76	Check procedure anti-colision: check FC outside None	Success
77	Check procedure anti-colision: Check status of the PLC side None	Success
78	Check procedure anti-colision: Check EMU1 Outside None	Success
79	Check procedure anti-colision: Check EMU2 Outside None	Success
80	Check procedure anti-colision: Put FC inside None	Success
81	Check procedure anti-colision: Check if the EMUs can't move None	Success
82	Check procedure anti-colision: Put FC outside None	Success
83	Check procedure anti-colision: Check if the EMUs can move None	Success
<b>Setup Magnetron:</b>		
84	Setup Magnetron: Set to external timing None	Success
<b>Setup timing system:</b>		

85	Setup timing system: Set frequency to 14Hz None	Success
<b>Setup EVR system:</b>		
86	Setup EVR system: Set pulse width None	Success
<b>HV PS configuration:</b>		
87	Phase A - HV PS configuration: Set High Voltage Power Supply to 75000V None	Success
88	Phase A - HV PS configuration: Put the HV Power Supply On None	Success
<b>Vacuum configuration:</b>		
89	Phase B - Vacuum configuration: Set MFC to 2.8sccm None	Success
90	Phase B - Vacuum configuration: Flow is around 2.8sccm None	Success
<b>Magnetic system configuration:</b>		
91	Phase C - Magnetic system configuration: Put Coil 01 Power Supply On None	Success
92	Phase C - Magnetic system configuration: Put Coil 02 Power Supply On None	Success
93	Phase C - Magnetic system configuration: Put Coil 03 Power Supply On None	Success
<b>Repellers configuration:</b>		
94	Phase D - Repellers configuration: Put the Repeller 01 Power Supply On None	Success
95	Phase D - Repellers configuration: Put the Repeller 02 Power Supply On None	Success
<b>ATU configuration:</b>		



96	Phase E - ATU configuration: X axis is activated None	Success
97	Phase E - ATU configuration: Y axis is activated None	Success
<b>Magnetron configuration:</b>		
98	Phase F - Magnetron configuration: Set magnetron forwarded power to 0W None	Success
99	Phase F - Magnetron configuration: Set magnetron reflected power to 700W None	Success
100	Phase F - Magnetron configuration: The magnetron filament is ready None	Success
101	Phase F - Magnetron configuration: Magnetron is On None	Success
<b>Configure the FC:</b>		
102	Configure the FC: Set display interval T0 None	Success
103	Configure the FC: Set display interval T1 None	Success
104	Configure the FC: Set measure interval T2 None	Success
105	Configure the FC: Set measure interval T3 None	Success
<b>Configure ACCTs:</b>		
106	Configure ACCTs: Set measure interval T2 None	Success
107	Configure ACCTs: Set measure interval T3 None	Success
<b>Magnetron status:</b>		
108	Magnetron status: Magnetron MW Power Status and wait 3 minutes None	Success

<b>Check chopper interlock status:</b>		
109	Check chopper interlock status: Chopper Chopping Voltage Alarm status None	Success
110	Check chopper interlock status: Chopper Cooling Water Flow Status status None	Success
111	Check chopper interlock status: Chopper Power System Status status None	Success
<b>Check repeller interlock status:</b>		
112	Check repeller interlock status: Electrodes Cooling Water Flow Status None	Success
<b>Global interlock status:</b>		
113	Global interlock status: Source Status For Radioprotection None	Success
<b>Coils cooling interlock status:</b>		
114	Coils cooling interlock status: Coil 1 Cooling Water Flow Status None	Success
115	Coils cooling interlock status: Coil 1 Temperature Status None	Success
116	Coils cooling interlock status: Coil 2 Cooling Water Flow Status None	Success
117	Coils cooling interlock status: Coil 2 Temperature Status None	Success
118	Coils cooling interlock status: Coil 3 Cooling Water Flow Status None	Success
119	Coils cooling interlock status: Coil 3 Temperature Status None	Success
<b>High voltage PS interlock status:</b>		
120	High voltage PS interlock status: Access Status None	Success

<b>Physical access interlock status:</b>		
121	Physical access interlock status: Access Status None	Success
122	Physical access interlock status: Radioprotection Sensor Status None	Success
123	Physical access interlock status: Neutral To Ground Resistor Switch Stat None	Success
<b>Matching transfer cooling interlock status:</b>		
124	Matching transfer cooling interlock status: Matching Transformer Cooling Water Flow None	Success
<b>Plasma chamber interlock status:</b>		
125	Plasma chamber interlock status: Plasma Chamber Cooling Water Flow Statu None	Success
<b>Coils power interlock status:</b>		
126	Coils power interlock status: Coil 1 Power Supply Status None	Success
127	Coils power interlock status: Coil 2 Power Supply Status None	Success
128	Coils power interlock status: Coil 3 Power Supply Status None	Success
<b>Beam stop cooling interlock status:</b>		
129	Beam stop cooling interlock status: Beam Stop Cooling Water Flow Status None	Success
<b>Solenoid and klixon interlock status:</b>		
130	Solenoid and klixon interlock status: Solenoid 1 Cooling Water Flow Status None	Success
131	Solenoid and klixon interlock status: Klixon 1 power Stat None	Success

132	Solenoid and klixon interlock status: Solenoid 2 Cooling Water Flow Status None	Success
133	Solenoid and klixon interlock status: Klixon 2 power Stat None	Success
<b>Collimator interlock status:</b>		
134	Collimator interlock status: Collimator Cooling Water Flow Status None	Success
<b>EMU interlock status:</b>		
135	EMU interlock status: EMU 1 Cooling Water Flow Status None	Success
136	EMU interlock status: EMU 2 Cooling Water Flow Status None	Success
<b>Faraday cup interlock status:</b>		
137	Faraday cup interlock status: Faraday Cup Cooling Water Flow Status None	Success
<b>Iris interlock status:</b>		
138	Iris interlock status: IRIS Cooling Water Flow Status None	Success
<b>Vacuum interlock status:</b>		
139	Vacuum interlock status: Vacuum Status None	Success
<b>Setup the injection of N:</b>		
140	Setup the injection of N: Set the injection of N None	Success
141	Setup the injection of N: Check the flow of N None	Success
<b>Setup the injection of H2:</b>		
142	Setup the injection of H2: Activate the injection of H2 None	Success

143	Setup the injection of H2: Set the injection of H2 None	Success
144	Setup the injection of H2: get the injection of H2 Traceback (most recent call last): File "/home/catane/miniconda2/envs/wetest/lib/python2.7/site-packages/wetest-0.4.3-py2.7.egg/wetest/testing/generator.py", line 162, in test self.assertGreaterEqual(ref_value, getter.get()) AssertionError: 1.3 not greater than or equal to 1.311	Failure
<b>Setup SOL1 power supply:</b>		
145	Setup SOL1 power supply: Set SOL1 Power Supply voltage to 20V None	Success
146	Setup SOL1 power supply: Set SOL1 Power Supply current to 265A None	Success
147	Setup SOL1 power supply: Check the status of the Power Supply None	Success
148	Setup SOL1 power supply: Set SOL01 Power Supply On None	Success
<b>Setup SOL2 power supply:</b>		
149	Setup SOL2 power supply: Set SOL2 Power Supply voltage to -20V None	Success
150	Setup SOL2 power supply: Set SOL2 Power Supply current to 265A None	Success
151	Setup SOL2 power supply: Check the status of the Power Supply None	Success
152	Setup SOL2 power supply: Set SOL2 Power Supply On None	Success
<b>Test steerer H1 power supply:</b>		
153	Test steerer H1 power supply: Set STEERER H1 Power Supply polarity to - None	Success
154	Test steerer H1 power supply: Set STEERER H1 Power Supply voltage to 12,5V None	Success

155	Test steerer H1 power supply: set STEERER H1 Power Supply to On	None	Success
156	Test steerer H1 power supply: Set STEERER H1 Power Supply current to 0A	None	Success
157	Test steerer H1 power supply: Set STEERER H1Power Supply current to 2A	None	Success
158	Test steerer H1 power supply: Check Reverse command desactivated	None	Success
159	Test steerer H1 power supply: Set STEERER H1Power Supply current to 0A	None	Success
160	Test steerer H1 power supply: Set STEERER H1 Power Supply polarity to +	None	Success
161	Test steerer H1 power supply: Set STEERER H1Power Supply current to 2A	None	Success
162	Test steerer H1 power supply: Check Reverse command desactivated	None	Success
163	Test steerer H1 power supply: Set STEERER H1Power Supply current to 0A	None	Success
<b>Test steerer V1 power supply:</b>			
164	Test steerer V1 power supply: Set STEERER V1 Power Supply polarity to -	None	Success
165	Test steerer V1 power supply: Set STEERER V1 Power Supply voltage to 12.5V	None	Success
166	Test steerer V1 power supply: set STEERER V1 Power Supply to On	None	Success
167	Test steerer V1 power supply: Set STEERER V1 Power Supply current to 0A	None	Success

168	Test steerer V1 power supply: Set STEERER H1Power Supply current to 2A	None	Success
169	Test steerer V1 power supply: Check Reverse command desactivated	None	Success
170	Test steerer V1 power supply: Set STEERER V1 Power Supply current to 0A	None	Success
171	Test steerer V1 power supply: Set STEERER V1 Power Supply polarity to +	None	Success
172	Test steerer V1 power supply: Set STEERER V1Power Supply current to 2A	None	Success
173	Test steerer V1 power supply: Check Reverse command desactivated	None	Success
174	Test steerer V1 power supply: Set STEERER V1 Power Supply current to 0A	None	Success
<b>Test steerer H2 power supply:</b>			
175	Test steerer H2 power supply: Set STEERER H2 Power Supply polarity to -	None	Success
176	Test steerer H2 power supply: Set STEERER H2 Power Supply voltage to 12.5V	None	Success
177	Test steerer H2 power supply: set STEERER H2 Power Supply to On	None	Success
178	Test steerer H2 power supply: Set STEERER H2 Power Supply current to 0A	None	Success
179	Test steerer H2 power supply: Set STEERER H2 Power Supply current to 2A	None	Success
180	Test steerer H2 power supply: Check Reverse command desactivated	None	Success

181	Test steerer H2 power supply: Set STEERER H2 Power Supply current to 0A None	Success
182	Test steerer H2 power supply: Set STEERER H2 Power Supply polarity to + None	Success
183	Test steerer H2 power supply: Set STEERER H2 Power Supply current to 2A None	Success
184	Test steerer H2 power supply: Check Reverse command desactivated None	Success
185	Test steerer H2 power supply: Set STEERER H2 Power Supply current to 0A None	Success
<b>Test steerer V2 power supply:</b>		
186	Test steerer V2 power supply: Set STEERER V2 Power Supply polarity to - None	Success
187	Test steerer V2 power supply: Set STEERER V2 Power Supply voltage to 12.5V None	Success
188	Test steerer V2 power supply: set STEERER V2 Power Supply to On None	Success
189	Test steerer V2 power supply: Set STEERER V2 Power Supply current to 0A None	Success
190	Test steerer V2 power supply: Set STEERER V2 Power Supply current to 2A None	Success
191	Test steerer V2 power supply: Check Reverse command desactivated None	Success
192	Test steerer V2 power supply: Set STEERER V2 Power Supply current to 0A None	Success
193	Test steerer V2 power supply: Set STEERER V2 Power Supply polarity to + None	Success



194	Test steerer V2 power supply: Set STEERER V2 Power Supply current to 2A None	Success
195	Test steerer V2 power supply: Check Reverse command desactivated None	Success
196	Test steerer V2 power supply: Set STEERER V2 Power Supply current to 0A None	Success
<b>Setup the chopper:</b>		
197	Setup the chopper: unlock interlocks None	Success
198	Setup the chopper: unlock interlocks None	Success
199	Setup the chopper: Set the width of the pulse to 3ms None	Success
200	Setup the chopper: Set the delay of the pulse to 1ms None	Success
201	Setup the chopper: Set Power Supply to On None	Success
202	Setup the chopper: Set Volt of Power Supply to 3kV Traceback (most recent call last): File "/home/catane/miniconda2/envs/wetest/lib/python2.7/site-packages/wetest-0.4.3-py2.7.egg/wetest/testing/generator.py", line 166, in test self.assertLessEqual(ref_value, getter.get()) AssertionError: 2.7 not less than or equal to 0.0030518509475997192	Failure
203	Setup the chopper: Set the Chopper to ON None	Success
<b>Check chopper interlock status:</b>		
204	Check chopper interlock status: Chopper Chopping Voltage Alarm status None	Success
205	Check chopper interlock status: Chopper Cooling Water Flow Status status None	Success
206	Check chopper interlock status: Chopper Power System Status status None	Success

<b>Check repeller interlock status:</b>		
207	Check repeller interlock status: Electrodes Cooling Water Flow Status None	Success
<b>Global interlock status:</b>		
208	Global interlock status: Source Status For Radioprotection None	Success
<b>Coils cooling interlock status:</b>		
209	Coils cooling interlock status: Coil 1 Cooling Water Flow Status None	Success
210	Coils cooling interlock status: Coil 1 Temperature Status None	Success
211	Coils cooling interlock status: Coil 2 Cooling Water Flow Status None	Success
212	Coils cooling interlock status: Coil 2 Temperature Status None	Success
213	Coils cooling interlock status: Coil 3 Cooling Water Flow Status None	Success
214	Coils cooling interlock status: Coil 3 Temperature Status None	Success
<b>High voltage PS interlock status:</b>		
215	High voltage PS interlock status: Access Status None	Success
<b>Physical access interlock status:</b>		
216	Physical access interlock status: Access Status None	Success
217	Physical access interlock status: Radioprotection Sensor Status None	Success
218	Physical access interlock status: Neutral To Ground Resistor Switch Stat None	Success

<b>Matching transfer cooling interlock status:</b>		
219	Matching transfer cooling interlock status: Matching Transformer Cooling Water Flow None	Success
<b>Plasma chamber interlock status:</b>		
220	Plasma chamber interlock status: Plasma Chamber Cooling Water Flow Statu None	Success
<b>Coils power interlock status:</b>		
221	Coils power interlock status: Coil 1 Power Supply Status None	Success
222	Coils power interlock status: Coil 2 Power Supply Status None	Success
223	Coils power interlock status: Coil 3 Power Supply Status None	Success
<b>Beam stop cooling interlock status:</b>		
224	Beam stop cooling interlock status: Beam Stop Cooling Water Flow Status None	Success
<b>Solenoid and klixon interlock status:</b>		
225	Solenoid and klixon interlock status: Solenoid 1 Cooling Water Flow Status None	Success
226	Solenoid and klixon interlock status: Klixon 1 power Stat None	Success
227	Solenoid and klixon interlock status: Solenoid 2 Cooling Water Flow Status None	Success
228	Solenoid and klixon interlock status: Klixon 2 power Stat None	Success
<b>Collimator interlock status:</b>		
229	Collimator interlock status: Collimator Cooling Water Flow Status None	Success

<b>EMU interlock status:</b>		
230	EMU interlock status: EMU 1 Cooling Water Flow Status None	Success
231	EMU interlock status: EMU 2 Cooling Water Flow Status None	Success
<b>Faraday cup interlock status:</b>		
232	Faraday cup interlock status: Faraday Cup Cooling Water Flow Status None	Success
<b>Iris interlock status:</b>		
233	Iris interlock status: IRIS Cooling Water Flow Status None	Success
<b>Vacuum interlock status:</b>		
234	Vacuum interlock status: Vacuum Status None	Success