High power test results of Kazakov RF window

at KEK

ISG5  WG-5

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Schematic Drawing of KEK X-band Windows,
A: PILLBOX; L1: 9.2mm for the short type and 34.7mm for the long type,
B: "OTAKE"; L2: 34.91mm for the #1 type and 34.31mm for the #2 type,
C: "KAZAKOV".
## High Power Test Results of KEK X-band Windows

<table>
<thead>
<tr>
<th></th>
<th>$E_{\text{an}}$</th>
<th>$E_{\text{nor}}$</th>
<th>$E_{\text{per}}$</th>
<th>$P_{\text{tested}}$ (M W)</th>
<th>Year</th>
<th>Ceramic (Coating)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PILLBOX</strong></td>
<td>16</td>
<td>19</td>
<td>7</td>
<td>30 (200ns)*</td>
<td>'90</td>
<td>UHA99 6nm</td>
</tr>
<tr>
<td><strong>&quot;OTAKE&quot; #1</strong></td>
<td>10</td>
<td>7</td>
<td>5</td>
<td>100 (300ns) 70 (700ns)</td>
<td>'94</td>
<td>UHA99 4nm</td>
</tr>
<tr>
<td><strong>&quot;OTAKE&quot; #2</strong></td>
<td>8</td>
<td>-</td>
<td>7</td>
<td>130 (300ns) 84 (700ns)</td>
<td>'95</td>
<td>UHA99 0.8nm</td>
</tr>
<tr>
<td><strong>&quot;KAZAKOV&quot;</strong></td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>81 (300ns) 66 (700ns)</td>
<td>'99</td>
<td>HA997 10nm</td>
</tr>
</tbody>
</table>

* Tested with Klystron Output directly.
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00

11.2  11.3  11.4  11.5  11.6  11.7

Frequency [GHz]

1.041@11.42GHz
260MHz

Fig. 2 Reflection characteristic of the high power model of Kazakov window.
Pulse width = 300 ns

Pulse width = 700 ns
Fig. 6 Conditioning history for the resonant ring test of Kazakov window.