

...

4.1

1. ...
(...)
...

2. ...
(...)
(... 2).
.5.
0.4
(...)
(...)

4.

.6

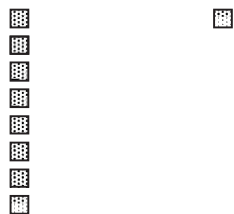
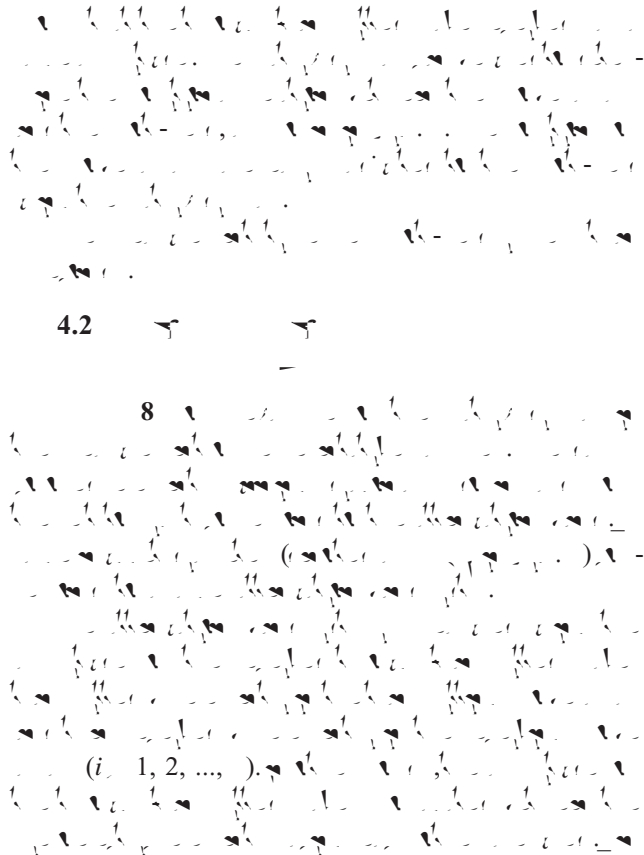
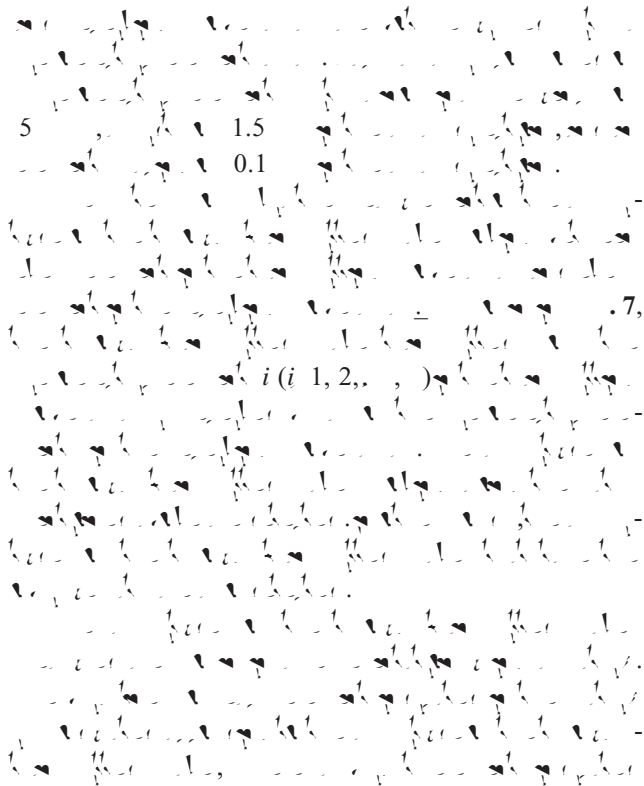


Fig. 7 Detection of miss-alignment by use of matrix display

Fig. 9 Relation between attenuation band widths measured using the system and nugget diameters

$z_1 = 2 + 3i$, $z_2 = 1 - 2i$
 $z_1 \cdot z_2 = (2 + 3i)(1 - 2i) = 2 \cdot 1 + 2 \cdot (-2i) + 3i \cdot 1 + 3i \cdot (-2i) = 2 - 4i + 3i - 6i^2 = 2 - i - 6(-1) = 2 - i + 6 = 8 - i$
 9. $z_1 = 3 + 4i$, $z_2 = 1 + i$
 $z_1 \cdot z_2 = (3 + 4i)(1 + i) = 3 \cdot 1 + 3 \cdot i + 4i \cdot 1 + 4i \cdot i = 3 + 3i + 4i + 4i^2 = 3 + 7i + 4(-1) = 3 + 7i - 4 = -1 + 7i$
 2.
 0.5

5.

$z_1 = 2 + 3i$, $z_2 = 1 - 2i$
 $z_1 \cdot z_2 = (2 + 3i)(1 - 2i) = 2 \cdot 1 + 2 \cdot (-2i) + 3i \cdot 1 + 3i \cdot (-2i) = 2 - 4i + 3i - 6i^2 = 2 - i - 6(-1) = 2 - i + 6 = 8 - i$
 $(z_1 \cdot z_2)^2 = (8 - i)^2 = 8^2 - 2 \cdot 8 \cdot i + i^2 = 64 - 16i + (-1) = 63 - 16i$

- (1) $z_1 = 2 + 3i$, $z_2 = 1 - 2i$
 $z_1 \cdot z_2 = (2 + 3i)(1 - 2i) = 2 \cdot 1 + 2 \cdot (-2i) + 3i \cdot 1 + 3i \cdot (-2i) = 2 - 4i + 3i - 6i^2 = 2 - i - 6(-1) = 2 - i + 6 = 8 - i$
- (2) $z_1 = 3 + 4i$, $z_2 = 1 + i$
 $z_1 \cdot z_2 = (3 + 4i)(1 + i) = 3 \cdot 1 + 3 \cdot i + 4i \cdot 1 + 4i \cdot i = 3 + 3i + 4i + 4i^2 = 3 + 7i + 4(-1) = 3 + 7i - 4 = -1 + 7i$

4

- 1) $z_1 = 2 + 3i$, $z_2 = 1 - 2i$
 $z_1 \cdot z_2 = (2 + 3i)(1 - 2i) = 2 \cdot 1 + 2 \cdot (-2i) + 3i \cdot 1 + 3i \cdot (-2i) = 2 - 4i + 3i - 6i^2 = 2 - i - 6(-1) = 2 - i + 6 = 8 - i$
- 2) $z_1 = 3 + 4i$, $z_2 = 1 + i$
 $z_1 \cdot z_2 = (3 + 4i)(1 + i) = 3 \cdot 1 + 3 \cdot i + 4i \cdot 1 + 4i \cdot i = 3 + 3i + 4i + 4i^2 = 3 + 7i + 4(-1) = 3 + 7i - 4 = -1 + 7i$